Personnel

JUN 1 1 1945

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AMERICAN MANAGEMENT ASSOCIATION

MAY, 1945

• THIS ISSUE INCLUDES INDEX TO VOLUME 21 •

AMA *announces...*

LOCAL PERSONNEL CONFERENCE

JUNE 14-15 • THE PALMER HOUSE • CHICAGO

An important labor relations conference will be held by AMA in Chicago at The Palmer House on June 14th and 15th. This meeting, which may be attended only by those in the Chicago area,* will be devoted to the aspects of industrial relations to which special attention must be directed as reconversion gains momentum.

Topics and Speakers Will Include:

Designing a National Labor Policy	*Hon. Wayne Morse*
"Full Employment"	*Theodore O. Yntema*
War's Impact on Labor Relations	*Almon Roth*
Wartime Lessons in Personnel Administration	*Garret L. Bergen*
Personnel Adjustments During Reconversion	*Robert S. Newhouse*
Relaxation of Government Labor Controls	*Dr. Leo Wolman*
The Foreman's Dilemma	*F. J. Roethlisberger*
Foreman Unionism—Its Legal Status	*Edwin H. Cassels*
A Company Program for Foremen	*Ralph Monk*
Significant New and Future Labor Demands	*Clarence O. Skinner*
Industry-Wide Collective Bargaining	*E. H. van Delden*

***WHO MAY ATTEND**

This is a local meeting for those in the Chicago area. The War Committee on Conventions has ruled that a local meeting is "one using only city or suburban transportation facilities and for which no hotel sleeping accommodations are necessary." Both members and non-members qualifying under these restrictions are welcome to attend this meeting. If you do not qualify, please save mutual embarrassment and PLEASE DON'T COME.

The publications resulting from the conference will be sent to all members enrolled in the Personnel Division of the AMA and thus, while attendance will be local, the essential purpose of AMA (to effect an interchange of management information) will be served.

AMERICAN MANAGEMENT ASSOCIATION

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M. J. DOOHER, *Associate Editor* ALICE L. SMITH, *Assistant Editor*

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Personnel

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.....Strictly personnel

Veteran Rehiring Program

With about 2,000,000 men scheduled to be released from the Army during the coming year, industry's reemployment policies are facing their major test. Already the pattern of veteran reabsorption is beginning to take more definite shape, though it is still obscured by a number of unresolved questions—notably in the area of seniority.

A recent study by the Research Institute of America* outlines a recommended company rehiring program consisting of 11 steps. For the benefit of readers who may desire to check their own policies against what may be considered an ideal program, the suggested program is reproduced below:

1. Select the proper person (preferably a veteran himself) as the first point of contact in your firm for the returning serviceman. He should be the serviceman's sponsor, responsible for introducing the latter to the foreman and his colleagues. He should familiarize the veteran with job location and plant premises and bring him up to date on any special personnel programs, such as health insurance, pension plans, etc.

2. Determine by means of aptitude and other psychological tests the veteran's basic abilities and any new skills he may have acquired in military service, along with his work preferences and ambitions.

3. Prepare training courses geared to an accurate appraisal of the veteran's capacities and experience.

4. Restudy and redesign procedures for physical examination of the handicapped to fit them into jobs where they can function productively.

5. Make sure the job analysis of company occupations is clear, complete and up-to-date, and takes into account reemployment of both the able-bodied and the disabled veteran.

6. Orient the foreman and others dealing directly with the returning serviceman in the application of the Selective Service Act and the G. I. Bill of Rights.

7. Consult regularly with the representatives of unions and veterans' organizations when formulating your policy for rehiring the serviceman.

8. Set up a company-wide committee equally representing labor and management to help put your company's program into practice.

9. Publicize within the plant and the locality your company's preparations for the veteran's return, and the willingness of management to participate intensively in any community programs working toward the more effective reabsorption of the veteran into civilian life.

10. Follow up every returning serviceman; check on whether his social readjustment to the job is keeping pace with his ability to perform his duties.

11. Cooperate with local trade schools or colleges in designing refresher and training courses that will bring the veteran up to scratch on his current job and help him develop latent ability in new directions. Your own department heads or other executives can well serve as instructors in such courses.

* *Rehiring Your Company's Veterans*, Analysis 38, Research Institute of America, Inc., New York, N. Y.

Public Opinion and Foremen's Unions

How does the public as a whole view the question of foreman unionization? Does its attitude coincide with that of union members?

These questions were the subject of a recent poll of people in all walks of life by the American Institute of Public Opinion. Specifically, the poll sought an answer to the following question: "At present most shop foremen in factories are not members of a labor union. Do you think they should or should not become members of a labor union?"

In general, the survey results indicate that the public is rather critical of foremen's unions, while the majority of union members favor them. Some of the salient findings are cited below:

1. Fewer than three in every 10 (28 per cent) among the adult population in this country say they have heard or read anything about the question of foremen joining a union.

2. Among this small, informed group, a majority disapproves the idea of foremen becoming members of a union.

3. When everyone, including those familiar as well as those not familiar with the issue, is questioned on the principle, the weight of opinion continues to be against having foremen join unions.

4. Labor union people, on the other hand, favor having foremen join a union by a majority of 56 per cent to 27 per cent opposed. Among labor union people familiar with the question, sentiment is about two to one in favor of foremen joining a union.

A detailed breakdown of the public's vote:

Think they should.....29 per cent
Think they should not.....41 per cent
No opinion.....30 per cent

The vote of those who are more or less familiar with the issue:

Think they should.....35 per cent
Think they should not.....51 per cent
No opinion.....14 per cent

The vote of labor union people:

Think they should.....56 per cent
Think they should not.....27 per cent
No opinion.....17 per cent

With respect to the attitude of union members, the findings of this survey coincide rather closely with the results of a poll of worker opinion published last fall by *Factory Management and Maintenance*. Of the union members polled in *Factory*'s survey, 49 per cent favored unions for foremen, while 33 per cent believed foremen should stay out of unions (18 per cent expressed no opinion). The non-union votes in *Factory*'s survey were 26 per cent in favor of, and 42 per cent against, foreman unionization, with 32 per cent expressing no opinion.

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Job Satisfaction Researches

Satisfaction with the job, and presumably, therefore, less absenteeism and job shifting, depend not so much on salary as on more inconspicuous work elements. New substantiation of this widely held belief is presented in a review of researches by Robert Hoppock and Thomas J. Hand in the April issue of *Occupations*.

Of the 11 studies analyzed, the six that examined salary as a cause of job satisfaction found it less important than such factors as advancement, congenial colleagues, proper and understanding supervision, and pleasant working conditions. Other conclusions to be drawn from the article are that about 25 per cent of workers are dissatisfied with their jobs, that men and women differ to some extent in the factors that give them job satisfaction, and that foremen and other immediate supervisors have a profound effect on job morale.

The studies summarized, when combined with researches reported by Hoppock during the past decade, represent 131 separate attempts to estimate the percentage of workers who are dissatisfied with their jobs. The results range from 1 per cent to 92 per cent, with the upper quartile at 47 per cent, the lower quartile at 11 per cent, and the median at 25 per cent.

Personnel managers will profit by examining the articles analyzed in this survey, one of which appeared originally in PERSONNEL.*

* Blum, Milton L., and Russ, John J., "A Study of Employee Attitudes Toward Various Incentives," PERSONNEL, July, 1942, pp. 438-444.

Reconversion Blueprint for Women

Women's employment prospects during the reconversion and postwar periods must be studied in relation to postwar planning as a whole, declares the Women's Bureau of the U. S. Department of Labor. At a recent conference of Women's Bureau representatives with officials of 30 national organizations, the following "reconversion blueprint for women"—outlining nine prerequisites to a satisfactory solution of women's employment problem—was formulated:

1. Analyses of women's impending job shifts in terms of kinds and numbers of jobs which will evaporate, and of the possible transfer of war skills and new applications for those skills in civilian industries and employment.

2. Establishment of policies and procedures for necessary layoffs, to prevent discrimination against women as such.

3. Assurance of public employment service facilities equipped and competent to handle the needs of all comers, including the many special groups which would benefit by special counseling but whose placement opportunities should all be equally unabridged. Reestablishment of state and local advisory committees to the public employment service.

4. Opening to women the benefits of adequate counseling, training and retraining facilities.

5. The establishment of at least adequate minimum conditions in the traditional woman-employing industries for women's shifts back to prewar occupations.

6. Readiness of women, in entering the labor market, to share all the responsibilities of employment, including taking advantage of opportunity to raise standards through collective bargaining.

7. Provision of funds for women workers when demobilized to return to former homes or to new areas where employment opportunities are available.

8. Advance planning of public works programs to meet the needs of all workers affected by reconversion shifts.

9. Services of competent, informed women on public postwar planning bodies, such as municipal and state planning committees.

Progressive labor standards must also be built up through legislation, says the Bureau. It urges that women be safeguarded with good work standards by:

1. Restoration of full enforcement of prewar state and federal labor laws, and reenactment where repealed.

2. Improvement of legal labor standards. Extension to all states of minimum wage, maximum hour, equal-pay legislation, and protection of collective bargaining rights; and administrative extension of minimum-wage orders to uncovered occupations.

3. Extension and improvement of workmen's compensation, old-age and survivors' and unemployment insurance to provide adequate benefits for all workers. Removal from unemployment insurance of the inequities and restrictive provisions in law and in administration.

4. Effective administration of labor laws by well-organized state departments of labor, with adequate funds and staff and progressive policies.

5. Efforts to solve problems and to raise standards in major woman-employing fields (as services and consumer industries); and to develop good employment policies for various types, skills and status of women.

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Layoff Policy in Non-Union Firms

Non-unionized companies will have much more latitude than unionized firms in making reconversion layoffs, since the latter firms will be bound by seniority rules (though some union contracts permit consideration of competence, family status and residence in making layoffs). Nevertheless non-union companies will have to follow some kind of orderly procedure in scheduling layoffs. According to Charles A. Myers,* the managements of a number of non-unionized firms have already devised rather definite procedures for making layoffs where necessary.

Mr. Myers outlines the procedure worked out by the postwar personnel committee of one large firm. The committee has secured top management approval of a plan under which layoffs will be made roughly, but not necessarily, in this order:

1. Married women with husbands working.
2. Part-time workers with jobs elsewhere; and persons of pensionable age.
3. Probationary employees who have worked less than six months with the company.
4. Workers who have been employed between six and 12 months in the company. (Layoffs among this group will be according to the company's employee rating plan.)
5. Workers employed more than 12 months, laid off in order of strict plant-wide seniority, subject to the ability of the returning employee to do the job.

Departmental lists have been prepared for the employees in each of these groups.

Another orderly plan for layoffs during reconversion was instituted by the Lowell Ordnance Plant of Remington Arms Company, Inc. This plan was described in the October, 1944, issue of THE MANAGEMENT REVIEW, and the problems encountered during its operation offer a preview of what may be expected by many companies as reconversion is stepped up.

* See *Personnel Problems of the Postwar Transition Period*, by Charles A. Myers (Committee for Economic Development).

Post-Termination Surveys

IN recent months a number of companies have employed post-termination surveys as a means of arriving at the actual reasons for employee turnover. The usual procedure is to contact persons who quit work from two to four weeks past, either by means of "post-exit questionnaires" or by the use of trained interviewers sent to the ex-employees' homes.

According to the War Advertising Council, Inc.,* exit interviews may deter many workers from quitting but they do not reveal the true reasons for turnover. Frequently the reasons given by the terminee are those which will let him out with the least bother. On the other hand, while advocates of post-exit surveys feel that they result in a sincere approximation of the factors underlying turnover, they admit that some distortion of the truth may result from fear of reprisals or from disinterest.

Among the companies that have used post-termination surveys successfully are the Liggett Drug Company and Lockheed Aircraft Corporation. An article by Frank Livingston in the July, 1944, issue of PERSONNEL described the post-exit questionnaire used by Liggett. According to the author, the questionnaire not only enabled the personnel department to make a number of remedial suggestions to top management but also resulted in the re-employment of many terminees. In the case of Lockheed, valuable information on both the reasons for termination and on employee attitudes was obtained by a trained investigator who interviewed the ex-employees in their homes.

* See *A Four-Step Plan to Reduce Turnover*, prepared under the direction of the War Advertising Council, Inc.

AMA WOULD LIKE A COPY OF YOUR UNION CONTRACT

For the purpose of developing a pool of information on collective bargaining, AMA is seeking to increase its collection of union contracts, and will be grateful to all companies which will cooperate by filing copies of their union agreements with the Association. It will be especially appreciated if contracts containing new and unusual types of clauses are brought to the Association's attention.

In any use which is made of this material, names of companies or unions involved will not be mentioned. Copies should be addressed: Editor, American Management Association, 330 West 42nd Street, New York 18, N. Y.

DEVELOPING TOP-FLIGHT LEADERS FOR POSTWAR INDUSTRY

By DR. J. J. WITTMER
Medical and Personnel Director
Consolidated Edison Company of New York, Inc.

To cope with its diversified postwar problems, industry will need resourceful, broad-vision executives rather than specialists. The following article relates how one company is building a reservoir of postwar executive talent by jolting promising candidates out of their old routines and putting them to work in a succession of jobs in other departments where they must grapple with unfamiliar problems. In addition to compressing broad experience into a relatively brief span, the program promotes a closer acquaintance among members of the supervisory staff and emphasizes anew the importance of working with other people.

THE "miracles" wrought by industry during the war years furnish us a source of pride in our workmanship, but they do not alter the fact that industry must do a more efficient job in the immediate future than in the past. This requirement results not from war problems or postwar problems but from the dynamic nature of the ever-present, ever-expanding forces which underlie our economy.

Probably there is no single means of meeting this requirement. I can, however, point to one improvement which is indispensable to industry and that is the improvement of management through improvement of supervision and executive administration in the postwar period. I know too many capable business leaders to suggest that we need better men; we don't need them and we won't get them. But as the pattern of industry becomes more complex, we shall need executives capable of administering a wider range of operations than have been integrated in the past. And the need for these broad-vision executives comes precisely at a time when technical advances are tending to produce more specialists rather than men trained in many related fields of endeavor. The Jack-of-all-trades does not get to the top in modern industry.

THE EXECUTIVE DEVELOPMENT PROGRAM

By this I do not imply that the odds are against postwar industry; on the contrary, the odds are in its favor if management sharpens its wits and develops new ways of solving its supervision problems. One such technique is exemplified by the Executive Development Program, formally adopted in 1943 in the New York metropolitan area by the Consolidated Edison System Companies, after a small-scale trial in the system's operating developments. Under this program experienced men, from 40 to 50 years of age, specialists in their respective fields, regarded as "comers" by their superiors, have been jolted out of their old routines, put to work in a succession of jobs in "foreign" fields within the system, and given a broad familiarity with the operations of departments with which they had previously enjoyed only a nodding acquaintance. As a result, we have built up a reservoir of men from which tomorrow's executives can be chosen. The management of our com-

panies now regards the program as a permanent institution, which is another way of saying—and saying quite flatly—that it has worked.

Let me emphasize that the men trained by this program—about 125 have enjoyed its benefits to date—are not given lecture courses on "How to Be an Executive" or "How Our System Operates." They do not "go to school." They plunge into turbulent waters of unfamiliar jobs and teach themselves to swim. Thus a gas production expert was put into an electric powerhouse job; a specialist in personnel was shifted to commercial relations and sales. A system commercial manager, whose unit put out 2,000,000 bills a month, went first to one of our electric operating departments and then to Personnel.

A STIMULATING EXPERIENCE

Although the name is officially frowned upon in our system, the program is widely known as the "Merry-Go-Round," a term which suggests the sudden stops and starts, the emotional experiences, the question marks in the minds of the participants, and the pursuit of the "brass ring" at the end of the swing. The prosaic phrase "Executive Development Program" more clearly defines the plan's principal object and suggests its importance in our scheme of things. Incidental objects include the breaking down of departmental walls, the discovery of more suitable jobs for participants, the "tonic" of work in new fields of activity, and a closer acquaintance among the members of our supervisory force.

Our people regard a ride on the "Merry-Go-Round" as a great opportunity and a great experience. But it is a deflating experience, being transferred to a field in which your subordinates know more about your work than you do, a field in which you are a "fifth wheel," and a field from which you will probably be transferred as soon as you know the ropes. If it is deflating, however, it is also broadening, stimulating and inspiring. The man who completes the circuit is a better man than when he embarked on the program. He knows more about the other fellow and the other fellow's problems. He has adopted fresh viewpoints, begun to think more clearly, and above all learned anew the importance of working with other people. He has gained experience more rapidly than he ever did in his life.

Enthusiasm for the plan is felt in equal measure by management and by those who have participated in the program. In this space I need not furnish a detailed description of our own setup, for every corporation adopting such a program will want a plan expressly designed to meet its own requirements. However, I shall venture to explain how Consolidated Edison happened to adopt the plan, and to offer a few suggestions based on our experience with the program.

In reviewing the middle rank of Edison supervisors not long ago, we noticed that most of them had had highly specialized experience. For example, it appeared that the average supervisor, who was about 45 years old, had had about 20 years as a meter man, as a commercial relations man, or as a production man, etc., with little or no experience in other company activities. Looking ahead, it seemed obvious that if one of these men should be promoted to a higher executive position, he would do well in his own line

but would be less effective in supervising those activities with which he was unfamiliar.

OBJECTIVES OF PLAN

The Executive Development Program, devised to train a reasonable number of supervisors in other important branches of the company's work, was then suggested as a means of meeting this situation. At least three results were anticipated:

1. A more effective cooperation between departments, based on an understanding of mutual problems gained by supervisors during their participation in the program. Thus, when supervisor Bill Jones returns to Personnel from a stay in Commercial Relations, he will view the problems of that department in a new light; in addition, he will have cemented his acquaintances with people in the Commercial Relations Department. Interdepartmental problems which formerly would have caused delays, difficulties or friction have already been quickly solved as a result of experience gained in this manner; among them was one war manpower problem which had threatened to block the operations of an important operating department.

2. A reservoir of supervisors with qualifications for promotion improved by participation in the program. For example, a competent man who had added electric powerhouse experience to his gas plant knowledge would be more suitable for promotion to an administrative post covering both gas and electric production than if he had remained "strictly a gas man." The same would be true of a man who had moved around in the various highly specialized electric divisions, each a "world in itself" to its own specialists. In fact, the rotation of district superintendents within a single operating department antedated and possibly suggested the development program.

3. The discovery of more suitable permanent positions for competent participating supervisors in occasional instances. A new field may "click" with a participant to the point where it is desirable to leave him in his new berth rather than return him to his old department.

REQUIREMENTS FOR PARTICIPATION

Finally, each participant was required to have had specialized experience. He had to be rated as a competent man capable of further development as a supervisor, and, in general, he had to fall into the 40 to 50 age group. There was no point in offering the opportunity to a man who might retire soon after he had completed the program. Supervisors under 40 were not considered, as a rule, because there were enough employees in the higher, more experienced age group to provide all the candidates who could be assigned to the program. This year, however, we plan to draw upon men from the 30 to 40 age group for our Executive Development Program. These younger men of course represent lower supervision levels than our recruits from the higher age category.

In considering how many supervisors might participate in the program at one time, we took into account the fact that the departmental organizations

could absorb only a limited number of newcomers. Some supervisors of course had to be retained in their regular posts to keep the work going.

PRESCRIPTION FOR EXECUTIVE PROGRAM

In conclusion, I think the following points might be considered in the formulation of an Executive Development Program:

1. First and foremost, the man who shapes, guides and enlivens the program should be a man of the soundest judgment. Unless good judgment is used, the program will boomerang against both the individual and the company. You can break as well as make a man in shifting him from post to post on such a program.

Furthermore, this guiding spirit should be one of the corporation's principal officers—a man who can command the all-out cooperation of everyone connected with the conduct of the program; a man who can speak for management; a man familiar with the complexities of human nature. Such a man need not be the nominal program chairman; he may be "the man behind the chairman." He may be too busy to run the program, but he must not be too preoccupied to lend his experience, judgment and knowledge of human nature to the executives who make the decisions governing the program.

2. Let me stress the need for "judgment" and "knowledge of human nature," for without them any executive program would be foredoomed to failure. In dealing with potential executives, you are not dealing with machines and you are not dealing with children. You are dealing with men who have already made their mark in life. Each move must be made with care as they are shifted across the checkerboard. The program will benefit management only if it benefits the participants, and vice versa. The right men must be chosen, and they must be shifted to the right jobs.

3. The program should be kept as elastic as possible, with no binding limits on the length of time spent by a participant in a given job, or the length of time he is to spend on the program. Periodic checkups with the participant himself as well as with his superiors should be a matter of routine.

4. Participants should be invited, not ordered, to join the program, in keeping with the program's status as an "opportunity," not a chore. In every case the reason for their addition to the program personnel should be made clear to them by a superior officer.

5. The program should not be resorted to as a means of moving undesirables out of their old jobs. Place such men on the "Merry-Go-Round" and you jeopardize the whole program by raising in the minds of other participants the question, "Are they training me—or eliminating me?" I need not suggest how rapidly the company "grapevine" would get the word around that the program was a chute, not the ladder it was supposed to be.

6. Participation in the program should cause no man to lose salary increases he would have received if he had remained in his old job. Our people instantly agreed with one "Merry-Go-Rounder" who said that he was investing two of the best years of his life, after he had been told that the company was making a large investment in his training.

7. Put your white-collar man into a spot where he will need to put on overalls and crawl through boilers, if that is advisable. But in giving him his new job be sure that through insufficient recognition he does not "lose face" with his fellow workers or lose his own self-respect.

8. Make certain that in entering upon his new job the participant receives the wholehearted cooperation of the people in his new department. He will have to be "carried" for a time. If he is treated as a rival or a nuisance, both the man and the organization will suffer.

9. By means of articles and statements in the company's house organ, as well as by word of mouth, make the program's meaning clear to all members of the organization. Many misunderstandings can be avoided if a "hush-hush" publicity policy is avoided.

10. Avoid sending your participant on a "Cook's tour." Give him definite responsibilities in each of his successive jobs, and keep him in each of the jobs at least a year.

11. Emphasize to all participants that, while they cannot become past masters of a new field in a year, they can in a short swing build up a stock of knowledge which will be helpful, if not invaluable, in future years. At the same time they can make the lasting acquaintance of other men who have specialized in the field. An alert observer picks up knowledge of human nature far more rapidly in a new post than in one which has become an old story to him.

12. In cases where younger men are invited to participate, an Executive Development Program might well absorb a limited number of returning veterans. I suggest, however, that such participants be given no special "veteran" status in the program.

Management Promotes "Stay-at-Home" Vacations

THE "stay-at-home" vacation idea, encouraging employees not to travel during wartime but to spend their vacation in their own community instead, has received increased attention from management. An outstanding example of the part an industrial recreation program can play in encouraging employees to spend their vacations at home and enjoy the facilities of the program is afforded by International Business Machines Company, Endicott, N. Y. Although many recreational programs do not have the extensive facilities available at I.B.M.'s Country Club, small-scale adaptations of this idea are possible.

During the period from July 15 through August 14, a daily schedule of extra events was arranged to supplement the standard activities which are open to members and their families at the I.B.M. Country Club. The regular activities participated in on a day- and evening-long schedule included horseback riding, juke-box dancing in the main dining room, use of swimming pool and billiard room until 10 p.m. daily, golf, daily junior activities, badminton, volley-ball, archery, tennis, horseshoes and quoits. A lunch bar is open every night until 10 p.m.

The day-by-day schedule of special events was designed to include something extra of interest to almost everyone.

—*Idea Clinic No. 25* (Industrial Recreation Association)

INDUSTRY AND EDUCATION—WHERE DO THEY MEET?

By ELLIS C. MAXCY
Assistant to Vice President
The Southern New England Telephone Company

During World War II industry and education have worked together to a degree never experienced before. This relationship is likely to be cemented in the postwar period, when returning servicemen will have to be re-educated for careers in business and industry. Mr. Maxcy here defines the six basic issues on which industry and education must be in substantial agreement before they can meet on common ground. He concludes that closer affinity of interests and development of mutual understanding will result from continuing working relationships between personnel men and school officials.

DURING the war period many long-range problems have confronted personnel men. None of them is of more lasting and fundamental importance than that of the developing relationships between industry and education.

There has been plenty of evidence that both industry's representatives and educators realize they have common interests. Generally speaking, however, they have not found common ground upon which they can work best together in understanding and confidence. This lack of a full meeting of minds is disturbing to some personnel men. As they deal with workers and their problems, they realize the need for an effective relationship between educational programs and industrial personnel programs and practices.

Personnel people realize that education can be the dominant constructive force in the postwar era to lead us to happier adjustment in our communities —just as the military is now the force that dominates all our actions on our way to victory. Educators too are concerned about their relationship to industry. They are encouraged by the progress of this relationship during the war, but they sense a lack of the full understanding necessary for joint postwar efforts.

SOME HISTORICAL RELATIONSHIPS

College Recruiting. Both education and industry have been undergoing severe adjustments and face uncertainities in the future which are of major concern to them. However, the bases for good working relationships between industry and education are not new. For at least 25 years each has had some limited experience in working with the other. Some of the earlier phases of this experience were outgrowths of college recruiting programs, under which companies interviewed prospective graduates and consulted with administrative and faculty personnel about students who were candidates for industrial work. These contacts have been maintained in a way mutually helpful to industry and education except during the depth of the depression.

Legislative Acts. Relationships between industry and education have been established in several areas by federal legislation. The Smith-Hughes

Act, passed in 1917, defined the kinds of trade education which would be provided through federal grants-in-aid to the trade and technical schools of the various states to prepare students for work in industrial trades. The George-Deen Act, passed in 1936, made additional vocational grants available and specifically aided education for the distributive trades.

Trade education was fostered further by the National Youth Administration. Now most recently the Servicemen's Act of 1944 (The G.I. Bill of Rights) and Public Law 16 provide funds by federal act for the education of returned service personnel for careers in industry and business. These statutes may prove to be the most powerful legislative forces yet established to draw industry and education together.

War Training Programs. Recently it has been reported that enrollment in civilian war training programs between July, 1940, and January 1, 1945, reached 14,000,000 persons. Most of the trainees were in mechanical operations related to fields requiring additional manpower for essential war production. Educational institutions have played a large part in developing and conducting many of these courses, and in doing this they have expanded widely their contacts in the community of business and industry.

Work-Study Plans. Prior to the war a limited number of educational institutions developed cooperative work programs in association with nearby industries. During the war this idea of staggered periods of work and study has been applied with a number of variations. For instance, some high schools have developed work-study plans whereby students receive credit for a regular schedule of part-time work performed in industry and coordinated with school work by a staff member of the educational institution.

The results of this experience in work-study programs at the high school level is now the subject of a broad study undertaken by the National Child Labor Committee. The committee will attempt to discover from the recent experience whether such programs are a valuable educational service warranting continuance and extension.

FACTORS IN FUTURE RELATIONSHIPS

There are six basic issues upon which substantial agreement in point of view must be reached by industry and education. Experience to date in working together under legislative and voluntary relationships has pointed the way to recognition of the fundamentals of these relationships.

1. *What are the purposes of education?*

Educators have always held that the purpose of our educational institutions is to promote maximum development of the individual in terms of all his potentialities. More recently many educators have agreed that this development of the individual also must be conducted in terms of his problems of cooperative living.

Industry, while stressing the need for individual development in its programs, has by reason of its organizational structure and its mechanization of work operations tended perforce to deal more and more with groups and

group problems. To do this, it has had to find its way over relatively unknown ground.

If development of the jobholder is to continue with much the same purpose as characterized his 8-16 years of education, ways must be found to further the growth of qualified persons in industry. The extension of job training during the war has made a marked contribution to this end. If training and other phases of the personnel program do not solve this problem, industry may be accused of placing and retaining persons on jobs solely for its own selfish interests.

However, any realistic view must recognize that in business organizations, promotions are not often available for all qualified persons. The problem here is acceptance of the viewpoint that the desirable objective is to promote the individual so that he may develop to the greatest degree that his potentialities permit within the scope of operating conditions in his industry. Industry and education should be able to agree on this viewpoint.

2. *What are the methods of education?*

A great deal has been written about the conflict between progressive and traditional teaching methods in our schools. Despite the fact that the progressive education movement began nearly 30 years ago, its influence has not yet been fused fully and the confusion of conflict between the progressive and traditional factions is still found within educational organizations. With this confusion in education, it is not surprising that industry too should be confused concerning educational methods. Industry has learned much about course organization and teaching procedures through war training experiences. Some of these experiences have not been convincing of the soundness of the educational methods employed and therefore have not enhanced industry's respect for education.

It must be borne in mind that there is no one best method of teaching. The best method must be determined in terms of specific instances. It will be based on such considerations as (1) the individual or group to be taught, (2) the setting in which teaching is to be conducted, and (3) the materials to be taught. Industry and education should both recognize that learning programs, whether in the work or school situation, must be designed to meet specific learning problems.

3. *What should be the continuity of experience of persons in school and in industry?*

The adjustment of persons completing their schooling and going into industry will be much easier if there is common recognition and appreciation of the individual's characteristics and problems in both these settings.

In Connecticut over a period of years a number of high schools, junior colleges and colleges have demonstrated that an understanding can be reached in a substantial way. Progress has been achieved by close educational cooperation in training ventures of considerable scope, with coordinators representing the schools and personnel men representing industry. Develop-

ment of mutual understanding and a common purpose will result from continuing contacts between the personnel men and educators.

Education and industry meet best after actual experience in working with each other. They meet best in the expression of the full purposes of education, which are the growth and development of people and the recognition of the mutual importance of learning and earning a living. These are the core of continuity in the career of every man and woman.

4. *How can the alternatives of vocational and liberal education be reconciled?*

Industry has been concerned about the extent of non-preparation for work experience on the part of graduates of many high schools and colleges. Many educators have adhered strictly to a program of education for living, in contrast to the conception of education for making a living. Substantial progress has been made in reconciling these divergent viewpoints, but further efforts are needed in specific local settings to bring the school systems and industry closer together on this issue. Local meetings of representatives of industry and education can expedite the progress already made.

5. *What are the problems of educational costs?*

Generally speaking, we are fortunate to get what we do in education for the money that we spend. Although, as a people, we testify frequently to our belief in education as a fundamental institution of America, we are too often content to let it function at a level of financial support which is far from adequate. The largest single deficiency in educational expenditures is obviously found in teachers' salaries, which are definitely below the standards of pay for work of comparable character in industrial establishments. More than any other element, this wage scale has contributed to the mediocrity which is too prevalent in school operations.

In the postwar period, education must not be limited by lack of high-grade personnel. If it is, it will move in its important field too slowly and with little vigor. This is a federal, state and community problem of the utmost importance. As a major recipient of the products of the schools, industry has an important stake in its solution.

6. *What is the relationship of industry and education to the public?*

During recent years many large business establishments have stressed their service relationships to the public. Education exists almost wholly as a service organization. In urging working relationships, industry must recognize that the schools have a responsibility to serve not only industry but also every other segment of the population, including agriculture, labor and special groups.

It should not be difficult for industry and education to agree on the public interests in their relationships. The solution of this issue would seem to lie in meetings which promote a cooperative approach.

SUMMARY

Never before in history have events drawn industry and education so close together in working relationship. This is illustrated by many voluntary and cooperative ventures and emphasized in the G.I. Bill of Rights and Public Law 16. Under these statutes, industry and education jointly will facilitate the adjustment and development of veterans of this war in civilian jobs and peacetime living.

There is a close affinity between personnel work and education. Both are concerned with problems of human development and adjustment. The best constructive use of this natural relationship offers great opportunities for good in the years just ahead. In education, the leadership must be taken by school administrators and their guidance personnel. In industry the problem is in the lap of the personnel man.

WHAT'S WRONG WITH MIDDLE MANAGEMENT?

By DALE YODER
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The typical supervisor or foreman has risen to his position by reason of his skill as a machine operator, his seniority or his experience. Thus he is at a considerable disadvantage in dealing with the representatives of labor—the union shop stewards and business agents who have come up from the ranks on the basis of leadership qualities. While management frequently attempts to develop such qualities in its supervisory staffs through training, no training program will make good supervisors out of men who lack the basic aptitudes and interests of leaders. What is needed, declares Mr. Yoder, is a more realistic approach to the selection of our "middle managers."

MOST discussions of middle management are principally concerned with the training and development of foremen and supervisors, on the theory that currently recognized problems reflect a lack of understanding. They assume, in other words, that the reason foremen are inadequate and ineffective is the fact that they don't know enough to be adequate and effective. They assume, further, that the organization of foremen can be precluded or stopped and that the chasm between foremen and top management can be bridged by more information, to be supplied by training.

It is notable that the training proposed to meet this situation is almost entirely training in administration, supervision and leadership. Such an approach indicates clear-cut recognition of the fact that the major function of supervisors is management and, more specifically, manpower management. Actually, the job of the supervisor is to get others to do things for him and for the organization. Essentially, his position is one of leadership, in which he should direct, control and motivate those under his supervision. All these

are, obviously, functions of manpower management. The problems of middle management all center about its deficiencies in manpower management.

But efficient manpower management requires more than merely the qualities that can be supplied by training. There are good reasons for suspecting that we are expecting too much of training in this connection. It is entirely possible that no program of training middle management can achieve the results that are recognized as necessary. For efficient manpower management requires particular aptitudes and interests as well as knowledge. And the human materials with which we are working in the training of foremen have seldom been selected with that fact in mind. On the contrary, they have generally been selected on the basis of the wrong criteria. Their abilities and interests are not appropriate to those who are to be manpower managers. For middle management is largely made up of manpower selected on the basis of production records. Foremen are too often the best machine operators or those with greatest seniority or longest experience. And the interests and abilities of efficient machine operators have quite different patterns from those who are most efficient as manpower managers.

Our middle managers are, at heart, pace-setters, record breakers, machine tenders, while the job specification calls for leaders of men.

This situation is further complicated by the fact that the representatives of labor with whom middle management has to deal, the union shop stewards and business agents, are far better selected for manpower management than the typical foreman or supervisor. They have come up in the ranks of the union on the basis of their ability to lead men. They have emerged from what is in many cases a sharply competitive struggle among the several union members most anxious to demonstrate leadership qualities. Under the circumstances, they are selected for precisely the abilities and interests which characterize the most effective manpower managers.

Thus management representatives in the middle management field are composed of efficient operators and machine tenders, who are pitted against rigorously selected leaders and manpower managers representing labor. The results are apparent on every hand.

No amount of training in personnel or industrial relations management can qualify such foremen, promoted to their supervisory positions because of efficiency on the production line, to meet the needs of middle manpower management or to compete with or even cooperate with shop stewards who have achieved their position by virtue of a basic interest and aptitude in leadership and control over other human beings. The only sound approach to the problem must involve a different basis in the selection of those who comprise the ranks of middle management.

• FIGURES just released by the War Production Board show that production was increased an average of 40 per cent per man-hour last year in plants which adopted wage incentive schemes. This increase was measured during the first 90 days after the schemes went into effect.

—*Management Information*

ACCIDENT PREVENTION THROUGH ACCIDENT PREDICTION

By ALFRED J. CARDALL
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In their quest for new approaches to accident prevention, safety engineers are giving increased recognition to the psychological aspects of the accident problem. They are beginning to realize that they must uncover the causal factors in the individual as well as the external influences that invite accidents. According to Dr. Cardall, the vast majority of accidents can be predicted—and thus avoided—if industry recognizes the psychological, physiological and physical factors involved and accords them due weight in its selection and placement programs. This paper is based on an address before the Greater Chicago Safety Conference.

THE cost of industrial accidents staggers the imagination. When we add to the economic loss the cost in life and misery, we frequently wonder how many accidents are really unavoidable. There were 2,230,000 industrial accidents last year, reports the Bureau of Labor Statistics, which resulted in a loss of 43½ million working days. Put another way, the productive effort of a million workers was lost for a period of two months. That some of these accidents are unavoidable should not blind us to the fact that the vast majority of them can be predicted. And to the extent that they can be predicted, they can be avoided.

Before attempting to discuss the prediction of accidents, however, we should look at what has happened in accident-prevention work in the past. The history of accident prevention in its rationale parallels the technological development of industry itself. As industry has developed new machines, new processes and new methods, so has accident-prevention work largely concentrated on machinery safeguards, good housekeeping, better lighting, ventilation and working conditions. Accident records have indicated hazardous areas, and improvements in the marking of aisles, low headroom and danger zones have resulted.

The wartime stress on the nation's industrial life has aggravated the problems of accident prevention. To many people, war invites a reckless, devil-may-care attitude toward their work and daily living. Despite the enforcement of lower driving speeds, for example, the rate of automobile deaths per miles driven has gone up. While the increasing number of hours spent at work and the emotional drive toward greater recreational activities have meant less time at home, nevertheless accidents in the home have risen also. The only bright spot has been that 3 per cent fewer accidental deaths occurred in industrial occupations in 1944 than in 1943 and 1942. This is a testimony to our safety workers, who have striven ceaselessly to improve machinery safeguards and working conditions. As this approach to the problem, however, becomes thoroughly established as a routine procedure in engineering design, further refinements are merely Lilliputian attempts to meet a Brobdingnagian problem. We regard, then, the mechanistic attack on accident prevention as a *delimiting* rather than *determining* factor.

The recent history of accident prevention brings significantly into play a recognition of certain psychological aspects of the problem culminating in our present safety training programs. Generally speaking, safety training may be broken down into two parts: first, training in the correct method of doing a job, with emphasis on safe working habits; second, continuing emphasis on safety-consciousness through contests, visual aids and publicity. This point of view, however, takes into consideration only a minor aspect of the psychological factors involved, as it erroneously assumes that all individuals are equally susceptible to accidents and may be equally helped by training.

THE PSYCHOLOGIST'S VIEWPOINT

Unquestionably, further refinements in current accident-prevention methods are possible and minor improvements in accident ratios may be expected; unquestionably, however, the big job yet remains to be done. Have we overlooked a major method of attack on the problem? Have we ignored some elements that are significant determinants of accidents? Are we living daily with the problem and yet completely overlooking the most fundamental causes? The answer is yes. In considering accidents to individuals, we have largely overlooked the individual! We have regarded accidents as largely attributable to external factors or possibly unsafe working habits and thought little of the emotional set of an individual, the psychological "shortages" and physiological invitations to accident. Logically, and perhaps belatedly, safety men in their continuing zeal are beginning to look to the psychologist for a new point of view, a new basis for attack on the still serious problem of accident prevention.

The point of view of the industrial psychologist and psychotechnologist may be simply stated as a recognition that most accidents are not "accidental" but are rather *symptomatic behavior* of individuals. If we are willing to recognize this obvious truth, we need only to become truly aware of what the phrase "accident-prone" means; how accident-proneness can be determined and what we can do about it.

We must realize that accident-proneness is descriptive of an individual and not of a situation; and as we turn the spotlight of scientific investigation on individual differences, and the relationship of these differences to various types of work activities, we can predict the "accident risk" involved. Obviously, to the extent that these techniques can be employed, we may be guilty of deliberately creating accidents by poor selection or incorrect job placement. To be sure, in accident prediction we do not deal with certainties but only with strong probabilities. Mainly, however, perhaps the accident-prone person may be likened to an individual who is 1-A in the draft: It is not a question of *what* will happen to him, but merely one of *when* the almost inevitable will occur.

SOME GENERAL AND SPECIFIC FACTORS IN ACCIDENT-PRONENESS

The predictive significance of different phases of accident-proneness varies greatly. Extreme cases of accident-proneness comprise many factors and make a worker unsafe in any normal plant environment. Simple cases

of accident-proneness, limited to one or two specific physiological or psychological "shortages," may make an individual accident-prone only in certain job assignments. Each of these factors must be understood in terms of its significance in general situations and in terms of individual differences in specific situations.

The purpose of this paper is not to offer a sure-fire, non-skid formula which will be universally applicable to all plants. Rather, an attempt will be made to establish clearly the *logic* of recognizing the individual's relationship to the accident. Each organization's formula should be written in the terms of its own selection factors, transfer controls, and psychological checkups. To make this point clear, however, let us review some of the psychological factors which we can generally recognize in any industrial situation.

Fatigue is now recognized as a general factor. For example, when working hours in a munitions plant were stepped up early in the war, accidents among women employees were 2½ times greater in a 12-hour day than during the previous 10-hour day. The extent to which an individual is easily fatigued governs the prediction as to who will be likely to sustain accidents attributable to this factor.

Emotional stability is a factor of vital significance in the prediction of accidents. In a study recently made among motormen in a street railway system, one-third of all accidents were attributed to faulty attitude, impulsiveness, nervousness, worry and depression. In 400 cases studied in one industrial organization, over 50 per cent of the accidents occurred when the employees stated that they were "feeling low." Industrialists must generally recognize that the nature of the emotional curve indicates that the average individual will be in this low area about 20 per cent of the time.

IMPORTANCE OF MENTAL STABILITY

These brief comments on emotional stability refer to the relatively normal individual. In the psychoneurotic case, which in its more severe aspects can be recognized by the layman although possibly not identified as such, accident-proneness is continually existent. For example, many accidents explained as being due to "lapse of memory" may be attributed to the gaps in consciousness which are characteristic of the epileptoid type and, interestingly enough, these gaps in consciousness are usually not apparent to one suffering from this disability. No individual can be safe who is mentally unsafe.

One of the most easily determinable factors in accident-proneness is the placement of an individual on a task far below his mental level. This naturally results in lack of challenge, with consequent lack of attention and day-dreaming as the job becomes increasingly monotonous. This tends to explain why accidents so frequently occur on the part of more intelligent employees who someone is sure to remark should "know better." The industrial psychologist uses intelligence tests today more for the purpose of being sure that he does not under-place an employee rather than to be sure that the employee is bright enough for the job. The term *monotony,* incidentally, is descriptive of an individual's attitude toward a job and not of the job itself. It is unfortunate that *monotony* is often employed as a factor in job evaluation, but this

is typical of the loose thinking which impedes progress in a field which should become professionalized. Obviously, a job could be monotonous to one individual and at the same time provide a series of challenging experiences to another. What the analyst usually means when he describes a job as monotonous could be better described as a simple, short-cycle, repetitive operation.

PHYSIOLOGICAL FACTORS

In addition to the psychological factors (and we have discussed only one or two as illustrative) there are a number of physiological factors equally important and perhaps more readily determined. Such factors are *reaction time, rhythm, dexterity* and *perception.* The importance of reaction time (which may vary anywhere from .14 to .80 of a second) can be readily seen in the driving of automobiles. The variation in the reaction of an individual is of far more significance in the prevention of automobile accidents than either the speed or brake efficiency of the vehicles themselves. A great many industrial accidents are caused by the slow reaction of employees. This might indicate that the faster an employee reacts, the safer he would be on any job assignment; unfortunately, the issue is not so simple as that. The individual who reacts quickly and yet has slow perceptual speed may be equally dangerous to himself or working associates. In short, if he reacts to a situation before he has fully perceived its meaning, he can do the wrong thing as well as the right.

Manipulative dexterity has long been recognized as an important variable in industrial jobs of the assembly type or operations calling for minute manual control. It is only a matter of time before the individual who is "all thumbs" will sustain minor injuries if he is placed on a job which calls for finger dexterity. It may also be pointed out that the individual who has sustained one or more minor injuries is a proper candidate for more serious injuries subsequently.

The nature of *rhythm* is not yet fully understood by the psychologist. Roughly it may be defined as the extent to which an individual senses and slips readily into the "pulse" or "beat" of a job. Absence of it is characteristic of the individual who "'fights his job," and the worker with partial or unintegrated rhythm is equally accident-prone. This latter fact was impressed surprisingly on the author when he was investigating the high accident ratio on kick presses. Accidents most frequently occurred when hand rhythm was broken but the foot followed through. In one investigation of accident "repeaters" in a war plant, it was found in every instance that individuals that had had two or more accidents were below the critical points of selection in one or more of the factors of reaction time, rhythm, dexterity and perception. In this organization today selection tests make it possible to hire only the "accident-free" for critical jobs.

From the viewpoint of accident prevention alone, the psychological evaluation of all employees is more than justified. It should be noted, however, that the proper placement of individuals, in addition to cutting down the economic loss of accidents, materially steps up the efficiency of an organization

by more effective utilization of personal potentials and at the same time increases individual earnings and job satisfaction.

VISUAL DISABILITIES

Physical factors comprise another large category. While industrialists apparently have no trouble recognizing missing limbs, they are apparently unconcerned with faulty vision. The complete lack of attention paid to industrial vision is always startling to the trained personnel man. In nearly all plants today the trained observer will note case after case of varying degrees of industrial blindness and other visual disabilities of which apparently neither the foremen nor the individuals are aware. To be sure, most physical examinations include a vision test which measures vision at 20 feet. Today we know, however, that no correlation exists between vision at 20 feet and vision at 20 inches. Not only will a test for far-point visual acuity eliminate many myopes (nearsighted individuals), who might be best qualified as far as visual factors are concerned, but it may result in placing a presbyopic (farsighted) individual on a job calling for near-point acuity. Many accidents, too, have occurred because of the limit in the peripheral range of an individual who may be able to see perfectly satisfactorily with one eye and be nearly blind in the other. Such an individual does not feel particularly handicapped in most of his work because binocular vision (two-eyed vision) is the same as that of the dominant eye. It means, however, that he often fails to see things on his blind side before it is too late. Unstable phorias (eye muscle balance) are a further cause of accidents in such work as that on drill presses.

The purpose of this brief discussion of the psychological factors in accident-proneness has been to create an awareness of the full meaning of accident-proneness. The question logically arises: If we accept the hypothesis that a large proportion of our accidents may be predicted, how do we proceed? It sounds like an over-simplification of the problem if we say simply: first, don't hire the generally accident-prone individual; second, don't place an individual on a job in which he is likely to sustain an accident; third, change an individual's job assignment as soon as evidence of emotional instability is apparent.

AN IDEAL PROGRAM

How do we achieve these ends? First, detection of accident-proneness must be regarded as the work of the entire organization and not the isolated responsibility of safety men. It calls for the closest cooperation among safety men, personnel men and supervision, with the psychological rather than the engineering viewpoint dominating. Job requirements must be carefully defined in terms of those psychological and physiological factors which at the low end may indicate accident-proneness. The extent of manipulative dexterity required on a job must be carefully defined if dexterity below that point will lead to an accident, and a similar course must be followed with the other factors which have been discussed. Visual requirements must be determined and closely adhered to. The fact that an individual wears glasses is

no guarantee that his visual difficulties have been corrected. Work in the field of industrial vision in recent years has indicated that vision must be corrected for the working distances involved; the general correction by which the ordinary occulist attempts to bring visual comfort to an individual is inadequate in the industrial situation. The analysis of visual requirements of jobs and the specific corrections for various visual disabilities to meet job demands is work for the specially trained industrial ophthalmologist, of which there are only a few in the country at this time.

This last comment raises a second point. Professional results cannot be expected from amateurs. Special technical training is essential to the scientific control of accidents. The coordinated use of consultants has been the quickest approach to the professional viewpoint, but the best approach will involve periodic conference leadership by a qualified consultant with representative safety committees.

A third essential is the intensive training of supervision in the recognition of the changes in the emotional stability of the individuals assigned to them. Just as the trained ear of a maintenance mechanic can quickly sense a change in the mechanical efficiency of a machine, so can the properly observant supervisor detect emotional changes within his staff. "Emotional maintenance" is as important as machine maintenance in accident prevention. The individual with a "grouch on" may be sent to the hospital within the hour, as he unconsciously tries to take it out on his machine or just plain doesn't "give a damn." The competent supervisor will change the work assignment of such an employee until the invitation to accidents disappears.

A fourth approach lies in the continued analysis of accidents, with the emphasis on psychological causes. The making of these analyses will call for the guidance or direction of an expert. It is said that the only good by-products of accidents are the reports which provide a basis for analysis of causes. The accident report of the future must take a radically different form. It must describe conditions within the individual ranging from the basic physiological and psychological make-up to the fluctuating aspects of emotional stability. It must represent a real attempt to uncover causal relationships within the individual as well as external factors in the specific situation.

It is hoped that this brief discussion may point out to safety men a logical and profitable viewpoint, which, when professionally implemented, will make a significant contribution to reduction of the staggering economic loss of men and materials through accidents. *Accident-prevention in the future must be based on accident-prediction in the present.*

• AS THE RESULT of industrial fires, workers lost $557,380,000 in wages in the past year—nearly four times the property loss of fire during the year. Industrial fires for the year resulted in the loss of more than five times as many man-days as were lost through strikes during the same period.

—*Management Information*

ORGANIZED SALARY ADMINISTRATION: ITS OBJECTIVES AND DEVELOPMENT

By STANLEY L. BALMER
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A recent investigation among New England companies yielded startling evidence of the need for more equitable compensation programs. For example, 43 per cent of the employees surveyed were relatively underpaid, while 9.7 per cent were found to be receiving excessive remuneration. This article shows how such inequities can be eliminated by a program of organized wage and salary administration, illustrating the development of such a program by a case history. Of timely interest is the description of the procedure followed to secure WLB approval of the adjustments called for by job evaluation.

HOW *much* a man is paid for doing his job is—interestingly enough—not so important to him as it would seem. Anonymous opinion polls show that recognition as an individual and the *fairness* of his compensation are much more important to him.

If a man feels that his job—whether that of vice president or bench worker—does not carry a rate of compensation that is *fair* in relation to jobs of equivalent worth to the company in which he is employed, then his morale is lowered, his work suffers, and company profits are diminished. More explosive consequences may be unionization and strikes.

WHY "ORGANIZED" SALARY ADMINISTRATION?

Personnel relations men and progressive top managements have long been aware of these fundamentals. Unionization and salary stabilization regulations now are forcing recognition of these compensation fundamentals upon all top managements.

Business is rapidly being compelled to give up hit-and-miss salary administration, which is so devastating to good morale and maximum profits. The best-managed companies are not waiting for the pressure of events to require adoption of organized salary administration. Such companies are taking the initiative and adopting sound programs. And sound programs of salary administration today are based on job evaluation techniques.

The major objectives and steps in a program of organized wage and salary administration based on job evaluation techniques are outlined in the following pages and exemplified in a case history.

I. Objectives and Steps in Program

RECORD OF JOB CONTENT

The program provides a complete record of the content of each job and its requirements. The responsibilities, duties and authorities of each person performing a job are defined, properly related, and reduced to writing. Only when individuals know the scope of their own field of action as well as that

of their associates can the friction caused by divided responsibilities and overlapping authorities be avoided.

MEASUREMENT OF JOBS

All jobs are classified by measuring their differences in required skills, responsibilities, efforts and working conditions in accordance with a tested scale. This is the basic step in providing an equitable foundation for compensation.

PROVISION FOR EQUITABLE PAY

Equitable wage and salary ranges are established for each job in accordance with its classification and in line with community pay levels prevailing for the particular industry. Each position can then be compensated fairly in relation to all other positions with greater, less or similar requirements, and the various rates of compensation can then be substantially equal to those paid for comparable positions within the community. Only when this condition prevails is it possible to avoid the friction which finds expression in grievances over pay inequalities and frequently results in employee turnover.

That these three basic steps are essential in most companies is indicated by the following data obtained from more than a dozen representative New England companies that recently developed compensation programs:

(1) 43 per cent of all employees were paid amounts less than the minimum of the ranges subsequently established for the grades in which their jobs were classified. In individual companies, the percentage of employees relatively underpaid varied from 21 to 82 per cent.

The average cost to adjust the wages or salaries of the 43 per cent found to be underpaid was 5.3 per cent of the total payroll of all persons whose jobs came within the scope of the job evaluation study. In individual companies the increase in payroll cost varied from 1.8 to 13.5 per cent.

(2) 47.3 per cent of all employees were paid amounts within the ranges established for the grades in which their jobs were classified. In individual companies, the proportion of employees in this category varied from 16 to 64 per cent.

(3) 9.7 per cent of all employees were paid amounts in excess of the maximum of the ranges established for the grades in which their jobs were classified. In individual companies the proportion of employees who received relatively excessive remuneration varied from 1.7 to 17 per cent.

With such inequalities in rates of pay, is it surprising that grievances arise? The wonder is that the consequences are not oftentimes a great deal more serious than high employee turnover, costly though that is.

REVIEW OF PERFORMANCE

Once equitable pay rates are established, the next step is to provide for periodic review of the performance of all employees in order to compensate individuals on a merit basis within the minimum and maximum rates of pay established for their respective job grades. Failure to review performance regularly is the cause for much dissatisfaction.

There should be a discussion with each employee of his job performance and status in order to give commendation when warranted, and when not, to point out how his performance may be improved. Each employee should know how well he is doing in the estimation of his supervisor, who should give him the kind of guidance which will assist him in improving himself and his work.

CONTROL OF PAY

Finally, an equitable control of wages and salaries should be set up to prevent recurrence of pay inequalities. Once a sound compensation program is developed, only the establishment of proper controls and vigilance in using them will keep it sound.

II. Case Example

Let us now review the recent development of such a program of organized salary administration in one large company. Here are the steps that were taken in this particular case:

1. Education of personnel
2. Job classification or gradation
   a. Job analysis
   b. Job measurement
3. Job grade pricing or evaluation
4. Establishment of merit review
5. Development of salary administration guide
6. Application to governmental agency

EDUCATION OF PERSONNEL

The first essential to success is an understanding by all supervisors and workers concerned of the policies and procedures involved in the undertaking. Conferences with top executives, department heads, and representative employees were held to acquaint them with the principles of job evaluation and the program to be followed. Such meetings provided an opportunity for discussion and for answering questions concerning the project.

Next, in order that the rank and file might be given an adequate explanation of the undertaking at its inception, the president addressed a letter to each person whose job came within the scope of the study. This letter explained the objectives of the program and outlined the steps involved in it. Enclosed with this letter was a pamphlet answering the following questions:

What is job evaluation?
What will job evaluation accomplish?
What are the steps in job evaluation?
What part will you take in the study?
What is your responsibility in the program?
How long will the project take?
What will be the results of job evaluation?

This pamphlet also answered a number of other questions which might arise in an employee's mind.

DEVELOPMENT OF JOB GRADATION

The next step was job gradation, the process of grading jobs according to degrees of difficulty. This process develops only the relative grading of jobs. It does not value them in monetary terms. Job grade pricing is done later.

(a) ***Job Analysis.*** The first phase in the grading of jobs is determination and recording of the essential content of each job. What are the daily, weekly and monthly operations which have to be performed? What are the standard or routine instructions? What degree of education and previous experience is required? What training period is necessary for adequate job performance?

At this point, the program deals only with the requirements of the job itself—not with how well the person does his job or whether it is performed by a man or woman.

To make this analysis of the various jobs, a few employees from the office were selected to act as "job analysts." These analysts were schooled in the techniques by on-the-job training, supplemented by verbal and written instructions.

To assist the analysts in obtaining and recording the complete description of each job performed, equipment used, procedures followed, and other specific information, a form known as the Job Analyst's Work Sheet was employed. From the information thus compiled, specifications were prepared for all jobs studied.

Job specification records have a continuing value in connection with employment, upgrading, demotion and transfer activities. Since they outline in considerable detail the work to be performed in each position covered, they are also helpful when used in training employees assigned to jobs with which they are unfamiliar. Exhibit I shows the specification developed for the position of "job unit cost accountant."

(b) ***Job Measurement.*** With information concerning requirements of the job recorded, measurement for purposes of gradation now follows. The reverse of the job specification form was prepared for recording the appropriate elements, and their corresponding point credits were determined by job measurement as illustrated in Exhibit II.

Job measurement is based upon two principal premises:

(1) To deal with a complex subject, it is helpful to break it down into a number of basic elements of which it is composed (e.g., skill, responsibility, effort, etc.). In this way, possible errors in judgment in assigning credits to each of the elements will not materially affect the final measurement, as slight errors tend to offset each other.

(2) To grade jobs fairly on an office or company-wide basis, a common unit of measurement incorporated in some numerical scale must be used, properly weighted to value the importance of each element. The basis for such scales is developed as a result of analysis in connection with many studies, but the scale should be tailor-made in each instance.

Exhibit I

JOB SPECIFICATION SHEET

DESCRIPTION

Daily Operations

1. Receive copy of invoice from Accounts Payable or Cost Department; check invoice against Purchase Order previously received, and arrange for any necessary corrections.
2. Prepare certificate of payment and pass on, with supporting papers, to Department Secretary for distribution.
3. Watch discount date on all D.P.C. invoices.
4. Prepare separate certificate on invoices where a partial payment has been made.
5. Itemize, by accounts charge, the total amount of each certificate and make entry at the bottom of each certificate prepared.
6. When invoices and certificates have been prepared in the field for D.P.C. jobs, check for accuracy and file; on all others prepare complete invoice from data received from Field office.
7. Receive, from Field offices, payrolls and summary sheet showing expense of labor and accounts chargeable; check for accuracy, arrange for any adjustments and also for any required journal entry.
8. Pass payroll records on to clerks for checking extensions and posting earnings.
9. When invoice or payroll certificates are complete, post according to job, by construction projects and accounts; at end of month check totals with those of the Bookkeeper of General Accounts.
10. Receive voucher checks with invoices covering job purchases.
11. Enter in disbursement register, according to account distribution for cash, inventory and operating.
12. Record amount of cash deposits made by bookkeeper for each job, and balance register at close of each monthly period with the Bookkeeping Department.

Weekly Operations

1. Payroll expense is entered weekly, on a Payroll Summary Sheet, showing taxable and non-taxable items, number of employees in each group, amount of Social Security or State taxes paid, the States designated where employees are located, and the earnings paid by such divisions; at close of each accounting period sheets are totaled and summary of account distribution made on the reverse side and then passed on to Assistant Treasurer's Executive Assistant.

Miscellaneous Operations

1. Watch freight charges on all invoices to make sure charges have been properly handled and invoiced accordingly.
2. Handle charge-back entries received from the Field offices, to make sure the necessary invoices and/or credits are issued to adjust.
3. All voucher and payroll expense must be watched for items not properly reimbursable; these items are furnished the Construction Department.
4. Carry on all necessary correspondence between Field men, client or vendor representatives, and interdepartment employees, in an effort to coordinate and keep all work in agreement as to records and amounts.

(Continued on following page)

Exhibit I (cont'd)

DESCRIPTION

Monthly Operations

A. Bank Reconciliations
1. Receive monthly statement and cancelled checks from banks handling job expense and payroll accounts.
2. Pass checks on to be checked against bank tapes and arranged numerically.
3. Check off checks against payrolls and voucher listings; list those outstanding to prove balance shown by bank.
4. Give list of unpaid checks, and bank statements to General Accounts Bookkeeper for use in combined reconciliation.

SPECIFIC

DIRECTION AND INSTRUCTION Standard routine, verbal on some and general sometimes
PROCEDURES Calculate, post and invoice
DIVERSITY Considerable
TIME SPEC. Promptness essential
LIMITS Work must be accurate
PRECISION IMPORT. Little-moderate on some
EQUIP. USED Adding machine
TIME USED About 1 hr. day
RELATIONSHIPS Interdepartmental, Gov. Auditors, vendors, and representatives
FREQ. Frequently
SUPERVISION GIVEN 1 clerk - general
NO. PEOPLE 1
PHYSICAL EFFORT Mostly desk work, some walking and standing
SUSTAINED % 90--10
AREA COVERED Various floors
MENTAL EFFORT Constant concentration
WORKING CONDITIONS Too warm most of the time

GENERAL

EQUIV. EDUCATION High School
SPECIAL TRAINING PERIOD Accounting and Business procedure 3 months - 6 months
PREV. EXPERIENCE 1 - 2 years
SUPERVISION REQ. Daily

COMMENT

EMPLOYEE John S. Mason (Interviewed)
Edward Bowman, Henry Haverty, James P. Durkin
INTERVIEWER Laurie F. Dobb
APPROVED Joseph P. Green

JOB TITLE Job Unit Cost Accountant
NO. EMPLOYEES 4
DATE March 11, 1943

DEPARTMENT Accounting
SECTION Construction Cost Unit
JOB GRADE VIII

Exhibit II

Job Measurement

JOB TITLE: Job Unit Cost Accountant

SKILL	*Number*	*Points*	*Total*
ELEMENT			
Complexity			
Procedures	4⅓	60	
Equipment	2	10	
Training			
Experience	5	60	
Training Period	3	15	
Routines			
Multiplicity	3	15	
Variety	2	10	
Limits	3	25	
Judgment			
Intensity	3	45	
Education			
Knowledge Required	4	60	
Relationships			
Tact	2½	25	
Frequency	2	10	
			335
RESPONSIBILITY			
Time			
Specification	2	25	
Precision			
Importance	3	45	
Supervision			
No. Persons	1	5	
Application	2	35	
			110
EFFORT			
Physical Effort			
Frequency	1	5	
Area Covered	3	10	
Energy	3	25	
Mental Effort			
Pace	2½	70	
			110
WORKING CONDITIONS			
Surroundings			
Discomfort	2	15	
			15
		Grand Total Points.....	570

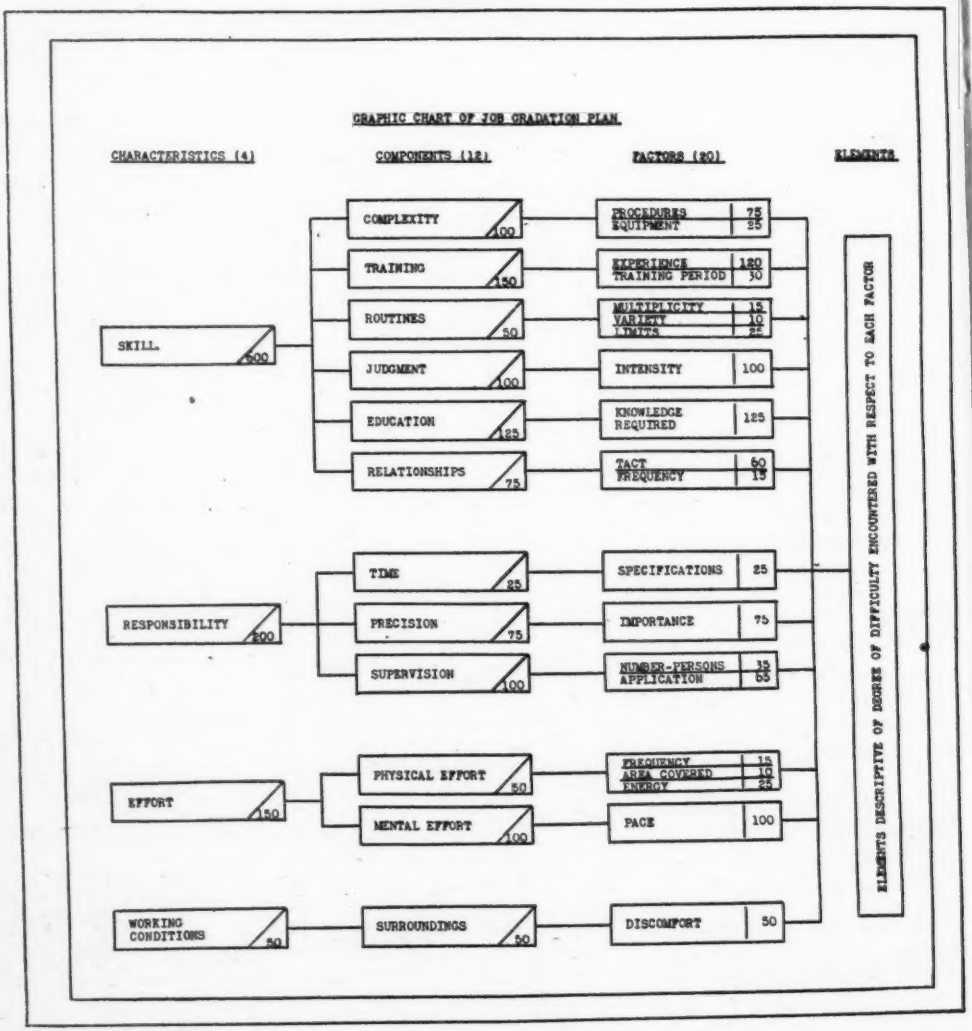
EVALUATED BY: JPG & AE

Exhibit III is a graphic presentation of a measurement plan embracing the characteristics of skill, responsibility, effort and working conditions. Point credits assigned to the various elements of each factor shown on that exhibit are recorded in a job measurement guide, a sample page of which is shown as Exhibit IV.

Each department head took an active part in applying the point credits to each element of the jobs under his supervision, recording the point credits on the form shown as Exhibit II. The point credits of all jobs were tabulated by elements for comparison purposes.

Then these data were reviewed and compared objectively, to eliminate any lack of uniformity in judgment on the part of department heads and to counteract the influence of personalities.

Exhibit III



(c) ***Job Classification or Gradation.*** The next step was to classify the jobs into grades. There are two divergent approaches to this phase: One employs few grades, with appreciable differences in the number of point credits between grades; the other employs many grades so that even slight differences between jobs are recognized. The objection to a few grades is that with the variations in degrees of job difficulty found in most companies the differentials are quite wide. In this case, the positions near the top of one grade would be penalized in comparison with those near the bottom of the same grade. With too many grades, the differences in degrees of job difficulty are too slight to deserve recognition.

In our case example, as a fair compromise between these approaches, 12 grades were decided on, each with an equal number of point credits—namely 54, as shown on the Index of Job Grades, Exhibit V.

The grade into which each job would be classified was determined by comparing its total point credits with the Index of Job Grades. Jobs with substantially the same number of point credits fall, of course, within the same grade. The name of each job title, alphabetically arranged, was then entered on the Job Comparison Chart under its proper department and within its proper grade. (See center spread, in which, for illustrative purposes, only two of five divisions are shown.)

Exhibit IV

Table of Point Credits for Job Measurement

SKILL

I. CHARACTERISTIC: *Skill*—600 points

The characteristic *Skill,* considered in its broad sense, has as its components Complexity, Training, Routines, Judgment, Education and Relationships required by proper job performance.

1. COMPONENT: *Complexity*—100 points

This component considers the extent and amount of details present in the job represented by the factors Procedures and Equipment.

FACTOR: *Procedures*—75 points

This factor is broken down into five elements descriptive of the extent of difficulty encountered.

	Points
1. A simple procedure, that is, an operation with only a few details.	5
2. A combination of several simple procedures in which the details are readily understood.	15
3. A wide variety of simple procedures in which some of the details are slightly involved.	30
4. A complicated procedure, that is, one in which the steps are relatively few, but each requiring exactness.	50
5. An involved procedure, that is, one in which there are many steps, each of which requires exactness.	75

Job Compari

ACCOUNTING

	Bookkeeping	Const. Cost Unit	Diary Analysis	Drafting and Factory Payroll	Evaporator	Export Invoice	Mail and Telegraph	Office Payroll	Secretarial and Exec. Assts.	War Bond
XII										
XI										
X										
IX	Bookkeeper Senior Accountant			Asst Group Head						
VIII	Bookkeeper (U. G. S. Co.)	Job Unit Cost Accountant	Asst. Group Head	Cost Clerk				Asst Group Head		
VII	Cashier Accountant Accountant Clerk – Stenographer			Paymaster and Chief Timekeeper Factory Payroll Clerk Leader		Export Invoice Clerk		Senior Payroll Clerk		
VI	Comptometer Oper. Clerk		Rate Analysis Clerk	Senior Drafting Room Payroll Analyst Drafting Room Payroll Clerk				Payroll Clerk	Secretarial Stenog.	
V	Comptometer Oper. War Bond Record Clk. Accounts Receivable Ledger Clerk	Payroll Posting Clerk	Proof Clerk — Payroll Charges	Calculator Oper. — Invoice Clerk Senior Factory Payroll Clerk	Distribution Clerk Pricing Clerk		Telep. and Teleg. Invoice Clerk		Senior Stenographer	
IV	Stenographer			Accounts Payable Clerk Payroll Analyst Factory Payroll Clerk Timekeeper			Telatype Operator	Senior Clerk Typist	Senior Clerk Typist	War Bond Issue Clerk
III		Invoice Checking Clerk Clerk Typist	Clerk Typist	Stock Room Clerk Clerk Typist Paid Invoice Checker	Clerk Typist		Bank Messenger — Clerk			
II			Typist				Clerical Assistant			
I										

parison Chart

War Bond	ENGINEERING										
	Control	DRAFTING		Estimating	REPRODUCTION		SCHEDULING			Staff
		Drafting	Administration		Drafting Sales Dept. Orders	Reproduction and Records	Mfr's Prints	Schedules	Requisitions	
				Estimator						
				Senior Cost Clerk	Asst. to Dept. Head			Asst. Dept. Head		
						Reproduction Supervisor	Mfr's Print Supervisor		Senior Requisition Writer	Secretary
	Engineering Clerk Secretarial Stenog		Secretarial Stenog.	Secretarial Stenog.	Design Draftsman			Secretarial Stenog.		Secretarial Stenog.
	Kardex Operator Requisition Register Operator		Chief File Clerk			Senior Stenog. and Recordak Supvr.			Requisition Writer	Senior Stenographer
War Bond Issue Clerk		Senior Squad Clerk	Time Clerk		Detail Draftsman	Blue Print Supervisor Control Clerk — B/P Room Orders Control Clerk — Outside B/P	Mfr's Print Checker Print Control and Despatch Clerk	Senior Scheduling Clerk		
		Squad Clerk		Material Commitment Clerk		C. B. Operator Blue Print Machine Operator Transmittal Clerk — Typist Control Clerk — Typist	Senior Print Routing Clerk Clerk Typist			
		Tracing File Clerk	File Clerk Typist			Requisition Clerk — Outside B/P B & W Machine Oper.	Print Stamper Print Routing Clerk	Scheduling Clerk	Typist File Clerk	
	Messenger Clerk	Messenger Clerk				Recordak Operator			Messenger Clerk	Messenger Clerk

Exhibit V

Index of Job Grades

Grade	*Point Credits*
I	173-227
II	228-281
III	282-335
IV	336-389
V	390-443
VI	444-497
VII	498-551
VIII	552-605
IX	606-659
X	660-713
XI	714-767
XII	768-821

The chart was then reviewed with all department heads in order to check individual grade relationships. This examination disclosed that a few were out of line. Corrections were made, and the Job Comparison Chart was then approved by all department heads. In a similar manner, the chart was reviewed and approved by all division executives and by top management.

DEVELOPMENT OF JOB GRADE PRICING

Since the objective of job evaluation is to establish equitable rates of pay which are in line both with job grades and with prevailing community levels of pay for the particular type of industry, information must be obtained from other companies which have comparable positions.

In the case example, salary information was obtained from nine representative companies in the area. Information sought from each covered minimum and maximum salaries currently paid by them for various positions in different job grades. The positions being surveyed were described and thoroughly discussed with executives in each concern so as to make certain they were comparable.

As was to be expected, tabulation of these data disclosed a few significant deviations from the range of rates within the salary patterns established by each company.

Minimum and maximum salaries paid by the participating companies for each job within a given grade, exclusive of deviations, were averaged to determine the mean minimum and maximum salary being paid within the community. This revealed a definite salary pattern. Not only was the spread between the minimum and maximum salary for each job grade approximately the same, but each set also showed an increasing rate of pay for each grade in a logically ascending order.

The average minimum and maximum salary for each job grade was then plotted on semi-logarithmic paper. From this graph was developed a series

of related basic rates, minima and maxima, for the different grades of job difficulty in line with current community levels.

With the salary schedule thus established, the objective of job evaluation was attained. Comparison of actual salaries paid with the schedule developed in the manner described revealed the following:

(1) 51 per cent of the employees involved were paid amounts less than the minima established for their grades. The cost to adjust these salaries was 7.5 per cent of the total payroll covered by the job evaluation study.

(2) 36 per cent of the employees were paid salaries within the range established for their grades.

(3) 13 per cent of the employees were paid salaries above the maxima established for their grades. The cost of this excess was 4 per cent of total payroll covered by the job evaluation study.

ESTABLISHMENT OF MERIT REVIEW

Merit review is the next step in the development of an organized plan of salary administration based upon job evaluation. Although the techniques of merit review will not be dealt with, it should be pointed out that an individual's performance is periodically reviewed for appraisal and, when warranted, his salary is increased within the range of his job's grade. Merit review, of course, is concerned with how well the individual does his job, whereas job evaluation is concerned only with establishing an equitable salary range for the job apart from any consideration of the person filling it.

Merit review on an organized basis helps greatly to improve morale and develop personnel when supervisors discuss the results of reviews constructively with subordinates.

DEVELOPMENT OF SALARY ADMINISTRATION GUIDE

When job evaluation was completed, a salary administration guide (or manual) was prepared, reducing the company's salary policies to writing, establishing an organization for salary administration, and explaining the procedures by which these policies are carried out. Where such a guide is followed, recurrence of salary inequalities will be prevented.

APPLICATION TO GOVERNMENTAL AGENCY

The changes in salaries called for by the job evaluation study could not, of course, be made until approval had been obtained from the appropriate governmental agency, in this case the War Labor Board.

The company petitioned the Regional War Labor Board for permission to make the salary adjustments indicated by job evaluation. This petition, prepared by the company's legal counsel, was supported by the following reports:

(1) *Report on Job Evaluation:* This outlined how the study was conducted and presented the recommended salary schedule.

(2) *Exhibits for Report on Job Evaluation:* This presented the statistical and procedural exhibits supporting the salary schedule.

(3) *Merit Review Report:* This outlined an organized, impartial method for increasing salaries in recognition of good job performance within current salary stabilization regulations.

(4) *Salary Administration Guide:* This, previously described, was filed to show how salary administration would be carried on in the future.

The Regional War Labor Board approved the petition in its entirety. No modification was made either in classification of job titles or in the basic salary ranges for the 12 grades established.

* * * * * *

As a result of this program, organized salary administration—soundly based on job evaluation techniques—became a continuing function of personnel relations in this company. Such programs are being adopted in many companies, with resulting reductions in grievances, improvements in morale and performance and, consequently, increases in net profits.

Union Demands for Group Insurance

A NUMBER of labor unions have made group insurance protection one of their demands in recent contract negotiations. This "fringe" demand has hitherto been regularly denied by the War Labor Board on various grounds. Under some circumstances, however, the WLB will direct the adoption or liberalization of a group insurance plan, the Board has indicated in a recent decision.

The Textile Workers Union of America demanded non-contributory group insurance for employees of the Fisk Cord Mill of the United States Rubber Company, to replace a contributory plan long maintained by the company in all its plants. A majority of the National War Labor Board denied this demand. The denial was based upon the Board's unwillingness to give even implied endorsement to any specific plan of group insurance, doubt as to the equity of requiring employers to pay for insurance protection for employees, unwillingness to grant hidden wage increases, disagreement in the ranks of labor as to the desirability of group insurance, and the fact that group insurance had not been adopted generally in American industry before the war.

While stating that "the Board will not normally order an employer to institute a group insurance plan or direct the liberalization of the plan in existence," however, the decision in the United States Rubber Company case adds that "each case will be judged on its own facts. Where it is clearly necessary in the interests of a fair and equitable disposition of the dispute to require the employer to institute or liberalize a group insurance plan, the Board will so direct." Because of limited experience with this issue, it is added, the Board "is not prepared to set forth at this time under what specific circumstances it will direct group insurance."

The War Labor Board may thus require employers, against their will, to inaugurate or liberalize group insurance coverage in some future cases. This might occur, for example, where there are no counterbalancing concessions to employees to offset an absence of insurance protection where that is provided by other employers in the industry or area. In the United States Rubber case, a higher wage scale and more liberal vacation benefits were held to offset the contributory feature of the company's group insurance plan, other textile mills in the community giving non-contributory insurance to their employees.

Group insurance has been regarded hitherto as a voluntary welfare measure for employees. In this instance, as in others, unions are seeking to turn this voluntary benefit into a contractual right. This attitude is bound to discourage employers from further voluntary welfare efforts, since these will similarly become demands after a while.

—*The Journal of Commerce* 4/24/45

YOU CAN MEASURE THE PROBABILITY OF SUCCESS AS A SUPERVISOR

By F. H. ACHARD and FLORENCE H. CLARKE

Supervisors and foremen are still commonly selected by hit-or-miss methods, despite the growing need for supervisory staffs that can deal with a diversity of labor relations problems. True, some progressive companies seek to evaluate supervisory potentialities on a more or less objective basis, but in the majority of cases the wrong selection criteria are employed. The following article outlines a more reliable approach to supervisory selection, demonstrating that employees who have "what it takes" to be supervisors can be distinguished from inferior candidates with a reasonable degree of accuracy. The authors describe a procedure for combining a battery of validated tests with supervisory ratings as part of a rounded program of selection.

WHY WE SHOULD TRY TO SELECT LIKELY SUPERVISORS

SUPERVISORS have always been important. In a one-man organization the boss does his own supervising. He knows that if he doesn't treat his help as human beings they will quit. As his business expands, the boss finds it impossible to be everywhere at once. So he has extensions of himself—that is, managers and supervisors to help him administer and direct his business. But still he and his managerial and supervisory staff have to treat his employees as human beings—"or else."

Choosing these managers and supervisors is a tough job. There are many people who can operate a machine but cannot manage people. Training helps. Supervisors can and should be trained. But the best training program in the world won't make a supervisor out of someone who doesn't have "what it takes." Consequently, if reasonably capable supervisors are to be produced, they must be selected from among those who do have "what it takes."

WHAT IS SUPERVISION?

Volumes have been written, and little specifically said, on this subject. As a basis for this study, the question was discussed with a number of persons, ranging in rank from junior clerks to officers of large companies. The consensus was that the primary job of a supervisor is to supervise employees—human beings, not machines; and that supervision itself is the planning and direction of the working activities of employees, and the removing of obstacles to production.

This statement needs to be amplified. The supervisor is responsible for:

1. Planning and directing the production and performance of the group.
2. Promoting equitable and agreeable personnel conditions within the group.
3. Maintaining satisfactory relationships with colleagues, superiors, suppliers, investors, customers and the public.
4. Performing special assignments, such as committee work and special investigations, as well as he performs his supervisory functions.

To carry out these responsibilities, the supervisor must perform four functions or activities. He must:

1. *Observe and analyze*—policies, general orders, procedures, methods, work orders, production conditions, personnel conditions, personal problems of his employees, environmental conditions, training needs, specific instructions, and all else that affects his group.
2. *Plan and develop*—ways and means of solving various problems as he observes and analyzes them and their causes.
3. *Execute and check*—principally by delegation—the work of the group so that it is performed to the best advantage by the employees and the means available, and according to established standards of performance.
4. *Evaluate and report*—the performance of the job and all conditions that affect the group; the reports being made to superiors, colleagues and employees.

The final measure of a supervisor is the results he gets. These results depend upon how well he carries out his responsibilities and performs his functions or activities.

HOW SUPERVISORS SHOULD BE SELECTED

There are almost as many methods of selecting supervisors as there are executives and managers. The factors on which the choices are made include such diverse considerations as seniority, performance in previous (generally non-supervisory) jobs, family relationships, education, availability and "apple-polishing," though earnest efforts are sometimes made to evaluate personality and likelihood of success in a supervisory job. On the whole, executives have probably done as good a job as circumstances permitted. But conditions in business and industry are such today that a much better job of selection must be done. Current labor relations problems, involving inevitable contact with labor representatives; the fast developing educational status and general ability of the operative employees; and the present-day consciousness of social relationships between employer and employee—all combine to make mistakes in the selection of supervisors more costly today than they have been in the past. The *general* ability as well as the *supervisory* ability required of supervisors is greater today than ever before.

The study reported in this article was undertaken to develop a more reliable method of choosing supervisors than is presently available. Obviously, the selection of supervisors should be based on facts. The following questions about a prospective supervisor may be used as a basis for selection:

1. Does he have enough mental ability, personality, breadth of interests, and ability to see and understand quickly to be able to handle his job intelligently, to get the most out of his people, and to check their work accurately?
2. Does he know the general nature of his prospective job and its relation to the work of the entire organization; or has he sufficient general knowledge to enable him to familiarize himself with the job readily?

3. Is he sufficiently versatile and adaptable? Or is he so individualistic that everything has to be built around him?
4. Is he mentally, physically and emotionally well-balanced? Is he constantly "in the pink," or does he have chronic aches and pains? Is he nervous or irritable? Is he excessively slow? How is his sense of humor? Is he an objective and impartial thinker?
5. How does he stand with the rest of the supervisors with whom he will have to work? Does he fit with the best of them? Will they accept him?
6. How well does he fit with his prospective boss? The boss and his supervisory staff must work together as a team. It would be unfair to saddle a boss with a supervisor who just wouldn't fit. But this congeniality should be an added index, not the sole one.

WHAT PREVIOUS STUDIES HAVE REVEALED

Considering the importance of this problem, very few real studies have been made of it, though much has been written on the subject. Most of the published articles have been based on not too well digested personal experience, and have either over-simplified the problem or have been confined more or less to stating that the problem is important. Over the past 30 years only about a dozen experimental investigations have been conducted. Among the first of these was the extensive test program in the United States Army during World War I under the direction of Yerkes (1) and his associates. Bingham (2), who worked with Yerkes, is continuing this study during the present war. Other investigators include Bingham and Davis (3), Bills (4), O'Connor (5), Beckman and Levine (6), Uhrbrock and Richardson (7), Achilles and Schultz (8), Cleeton and Mason (9), Mitchell (10), Mercer (11) and Hersey (12).

The following conclusions can be drawn from their studies:

1. Successful supervisors have (a) average or better mental ability as measured by valid tests; (b) relatively broad interests and abilities; (c) greater vocabulary development than less successful supervisors; and (d) more objectivity in their thinking and actions than the average person.
2. Personal physique does not seem to be important unless it involves physical disabilities or weaknesses.
3. Studies of personal history items thus far have not yielded any conclusive results.
4. Opinion is divided as to whether there is any proportional relationship between mental ability, breadth of interests, vocabulary and objectivity of thought on the one hand and quality or level of supervision on the other, provided the person has a satisfactory minimum of each characteristic.

WHAT THIS STUDY SHOWS

This study was based on the proposition that a prospective supervisor's equipment and characteristics (excepting experience) should compare favorably

with the equipment and characteristics of successful supervisors. Answers to the following questions were sought:

1. How do good supervisors differ from indifferent and unsatisfactory supervisors with respect to mental abilities of various kinds, personality and breadth of interests, and ability to see and understand quickly (visual perception)?
2. Can employees who have "what it takes" to be supervisors be distinguished from those who don't with a reasonable degree of accuracy?

A large public utility* provided the writers with facilities to study over 300 successful and indifferent supervisors. These supervisors included gas and electric service foremen, bookkeeping and clerical supervisors, meter reading and collection foremen, and district office managers.

Four results from this study are reported in this article:

1. A supervisory rating scale (see illustration on pages 359-360) was designed and found to be quite reliable and accurate with all four groups of supervisors.
2. Successful supervisors of the kinds studied were found to have measurably higher scores than the indifferent supervisors in certain tests of mental ability, personality and breadth of interests, and ability to see and understand quickly (visual perception).
3. A method was developed of combining the scores made by an employee in these tests into a single rating that corresponded closely with the rating of the employee on the supervisory rating scale.
4. A procedure for using the tests as a part of a program of supervisory selection is proposed.

The Investigation

BACKGROUND AND GENERAL PROCEDURE OF THE STUDY

Thorndike has said, "Whatever exists, exists in some amount. To measure it is simply to know its varying amounts." (13)

When a machine is being designed and produced, engineers determine the physical characteristics required for every part, such as weight, density, hardness, temper and shape. They specify the materials to be used and the physical tests to be met, create new materials to meet specific needs, and determine the shape and tolerances to which the materials must be machined. Finally, they observe the operation of the machine and make such refinements in specifications as may be necessary.

Perhaps we can't "engineer" an organization as thoroughly as we can engineer a machine, but it is possible to be much more scientific than at present about the selection of the component parts—the human beings—that make up our human organizational machine. And it is possible to determine by measurement the relative extent to which individuals possess certain human characteristics.

* Consolidated Edison Company of New York, Inc.

THE TESTS STUDIED

As previously mentioned, good supervisors might be expected to excel in such characteristics as mental ability, certain personality factors, and visual perception. To obtain additional data on this point, some tests of these characteristics were studied experimentally. These tests were given to supervisors of the four types included in this study; the supervisors were divided according to their relative excellence as supervisors; and the test scores made by the better supervisors were compared with the scores made by the indifferent or mediocre supervisors.

The following tests were chosen for study because of the thorough developmental processes to which they had been subjected and because they had been found to be reasonably reliable:

Tests of Mental Ability

1. English Vocabulary, Work Sample 95, Form EA (14)
2. Otis Self-Administering Test of Mental Ability Higher Examination; Form A (15)
3. Test of Mechanical Comprehension, Form AA (16)

Tests of Personality

1. The Personality Inventory (17)
   Scales B2-S, F2-S, and CFS*
2. Vocational Interest Blank for Men (Revised) Form M (18)
   Scale CFS only*

Tests of Visual Perception

1. Minnesota Vocational Test for Clerical Workers (19)
   Test 1 (Number Checking)
   Test 2 (Name Checking)
2. Revised Minnesota Paper Form Board Test, Series AA (20)
   (Not used with the gas and electric service foremen)

DEVELOPMENT OF THE SUPERVISORY RATING SCALE

A rating scale (see illustration) was developed for use in dividing the supervisors who took the tests into sub-groups according to their relative abilities.

The form of the scale was adopted for two reasons:

1. The rating scale proper (listed as SUMMARY RATINGS) is simple to use, definite, and includes a minimum of basic items.
2. The rater, in preparing the questionnaire, must focus his attention upon the supervisor being rated. Thus he will be less likely to make a snap judgment when assigning the Summary Ratings than if he prepared the ratings without benefit of the questionnaire.

* Specially developed by F. H. Achard for this study. Values for the CFS scales will be supplied on request.

The questions included in the questionnaire were selected from a large number proposed by executives and supervisors, and cover the four responsibilities and four functions of the supervisor previously cited. A trial form was used by executives from each of the four groups included in the study. Ratings were made of equal numbers of known good, bad and indifferent supervisors, and an item analysis was made of the trial questions. Most of the questions differentiated sharply between the good and the poor supervisors and were retained in the final scale.

After all supervisors had been rated on the final scale, a second item analysis of the questions was made on the basis of the Summary Ratings of General Value, weights were developed for each question (Table 1),* and the questionnaires were scored. The questionnaire scores had a range of from 0 to 63 and were divided into four equal blocks or groups of questionnaire scores of 16 points each—0 to 15, 16 to 31, 32 to 47, and 48 to 63. It was found that each of these blocks of questionnaire scores was generally associated with two ratings of general value, as indicated in Table 2. Therefore, if a man received a questionnaire score of—for example—51, he could be expected to have a rating of 1.0 or 1.5. If the questionnaire score were 39, the rating should be 1.5 or 2.0.

Thus a third value to this form of rating scale was developed: The probable reliability of each rating could be determined in over-all terms, and inconsistent ratings returned for review.

One of the unique features of this rating scale is found in the instructions for its use. The areas covered by the four summary ratings, KNOW, PLAN, DONE and REPORT, were carefully described and the limits of the two outside and the middle (1, 2 and 3) rating points were defined. The other two points (1.5 and 2.5) were not defined because it has been found that—no matter how well a scale is defined—there are always cases that fall "in between" two points. The 1.5 and 2.5 points were established for the "in between" cases.

Results of Investigation

A number of questions were at least partly answered by this study. How did the test scores of the various groups compare with each other and with those of people in general? There were significant differences. Did age, education and experience as a supervisor have any effect upon the test scores? These factors had little effect, except as they also affected supervisory ability. Did the test scores select the good from the indifferent supervisors? They did.

COMPARISONS OF THE SUPERVISORY GROUPS WITH EACH OTHER AND WITH PEOPLE IN GENERAL

With two exceptions, all groups of supervisors had average test scores that equaled or were better than the average test scores of people in general as observed from publishers' data (the personality inventory and the vocational interest blank were excluded from this comparison). Both exceptions occurred in the group of credit and collection and meter reading foremen, who,

* Tables appear as an appendix to the article.

Supervisory Rating Scale

(Obverse Side)

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Name

Title

Company Department Bureau

Please review PROCEDURE FOR USE before using this form.

Do this employee's PRESENT DUTIES agree with his PRESENT TITLE? Yes__ No__. If not, describe his present duties. (RATE this employee on his PRESENT DUTIES.)

Mark (✓ or ○) each item in accordance with the extent to which it is within the supervisor's scope of authority.

		Yes	???	No
1.	Does he habitually anticipate and act on special conditions which, if not recognized, would seriously interfere with the job?	1	2	3
2.	Does it take him unusually long to learn new work or methods?	3	2	1
3.	Is he inclined to report or take action in production or personnel situations without first getting all of the facts?	3	2	1
4.	Does he resent an adverse criticism of any of his employees regardless of its justification or source?	3	2	1
5.	Does he generally check employees to determine whether or not they are in fit condition to perform their assigned duties?	1	2	3
6.	Is he exceptionally well informed about personnel problems of the employees who report to him?	1	2	3
7.	Does he often neglect to consider the relationship between the work of his group and the work of other groups or departments affected by it?	3	2	1
8.	Would you select him to handle a difficult job that involved coordinating the work of a number of employees?	1	2	3
9.	Does he stick to his plans as a rule but modify them when special conditions indicate the need for a change?	1	2	3
10.	Is he inclined to duck making decisions on difficult problems within his range of responsibility?	3	2	1
11.	Do the employees in his group run into difficulties because instructions have not been complete or understood?	3	2	1
12.	Is the volume of work done by the employees in his group more than satisfactory?	1	2	3
13.	Is the work of the employees in his group outstanding in quality?	1	2	3
14.	Does he handle serious and unusual problems exceptionally well?	1	2	3
15.	Is he inclined to load himself with details that he should assign to employees?	3	2	1
16.	Does he embarass unnecessarily the employees affected when he handles disciplinary problems?	3	2	1
17.	Does he carefully review errors with employees and instruct them so as to prevent future errors of the same kind?	1	2	3
18.	Does he resent personal criticism from his superiors?	3	2	1
19.	Does he get along well with his fellow supervisors?	1	2	3
20.	Is he so familiar with the operations and figures of his group that he can discuss its work intelligently without referring to records?	1	2	3

		Yes	???	No
21.	Does he habitually pass along all necessary information to the supervisor who takes over when he leaves the office or finishes a watch?	1	2	3
22.	Are his reports of job progress and completion habitually sufficient in all details (including time, accuracy, and other essentials)?	1	2	3
23.	Is he generally inclined to shift the blame when the work of his group goes sour?	3	2	1
24.	Does he often fail to inform his superiors about personnel conditions in his group?	3	2	1
25.	In his contacts with his superiors does he generally neglect to present the employee's point of view?	3	2	1
26.	Does he manage his regular work in such a way that he can handle special assignments?	1	2	3
27.	Can you use him for a wide variety of tough jobs?	1	2	3
28.	Do you believe that he could handle the next higher job reasonably well?	1	2	3
29.	Does he take the initiative in handling new or difficult problems?	1	2	3
30.	Is he inclined to duck new or additional responsibilities or work?	3	2	1
31.	Is he generally resourceful in meeting difficulties?	1	2	3

SUMMARY RATINGS Rate each employee on his performance in his present supervisory job.	Exceptional	Satisfactory: Very Good	Satisfactory: Average	Satisfactory: Fair	Unsatisfactory
How thoroughly does he KNOW his job in all of its aspects?					
How well does he PLAN his work and his methods of handling any special problems?					
How well is his work DONE according to prescribed standards?					
How well does he REPORT on work and conditions?					
Remarks:					
What is his GENERAL VALUE to the Company as a SUPERVISORY employee?					

Rated by _____ Date _____

Reviewed by _____ Date _____

Supervisory Rating Scale

(Reverse Side)

PROCEDURE FOR USE

1 Complete the rating of one employee before rating another employee.

2 Consider each item in accordance with the extent to which it is within the employee's scope of authority and responsibility. Indicate your conclusions about the employee by placing check (✓) marks in the "Yes" "???" or "No" columns or by encircling the 1, 2, or 3.

3 As a general practice, an item either generally applies to an employee or it doesn't. If you feel that the employee is in the middle ground or if you don't know, use the column for the question mark.

4 All items should be checked before the ratings are made.

5 In the SUMMARY RATINGS, rate each employee on his performance in his present supervisory job.

a How thoroughly does he KNOW his job in all its aspects?

(1) The average supervisory employee knows his procedures and techniques fairly well but may be stuck on details. He also closely observes and weighs the importance of normal field and personnel conditions.

(2) The exceptional supervisor is rarely stuck on even minor points of procedure and technique. He observes field and personnel conditions closely and anticipates the possibility of unusual conditions.

(3) The unsatisfactory supervisor is frequently not thoroughly familiar with techniques and procedures and often is unaware of important field and personnel conditions.

b How well does he PLAN his work and his methods of handling any special problems?

(1) The average satisfactory supervisor generally plans his work and that of the employees who report to him in such a way that routine jobs and the simpler special jobs get done according to schedule.

(2) The exceptional supervisor plans all of his work with exceptional care and is rarely caught unprepared by unforeseen field or personnel conditions.

(3) The unsatisfactory supervisor seems to have difficulty in planning work so that there is often an unnecessary rush to take care of loose ends as the job approaches completion.

c How well is his work DONE according to prescribed standards?

(1) The average supervisor so checks the work of employees that relatively few inaccuracies or otherwise unsatisfactory jobs slip by. He is also quite careful in performing any specially assigned duties.

(2) The exceptional supervisor rarely lets errors or unsatisfactory jobs get through and, in addition, he seems to anticipate the possibilities of errors in various jobs and prevents them from taking place. His jobs are practically always done on time and according to the required standards of performance.

(3) The unsatisfactory supervisor often has difficulty in meeting dates and while he may allow relatively few errors to pass by, jobs that are done by his group are sometimes sloppily done and need revision or subsequent cleaning up.

d How well does he REPORT on working conditions?

(1) The average supervisor reports most conditions as he sees them, although he may occasionally be somewhat sketchy or incomplete in reporting special situations.

(2) The exceptional supervisor reports all conditions promptly and almost always gives sufficient but not burdensome details.

(3) The unsatisfactory supervisor may delay reporting situations until there is insufficient time for full consideration and careful action, so that measures have to be taken in too great a hurry; or he may present his information in such a way that additional data have to be called for.

6 Special characteristics of the employee not covered by the questionnaire should be described in the space provided for remarks.

7 It is recommended that, as a general practice, each supervisory employee should be rated by his immediate superior or by someone as close to that status as possible and who knows the work and the characteristics of the employee thoroughly. Each rating should be reviewed by a superior of the rater who knows the work and the characteristics of the supervisory employee being rated.

ADDITIONAL REMARKS

on the average, had lower scores than people in general in the tests of mental ability and mechanical comprehension.

There were significant differences between the average test scores of the various groups, which can be summarized as follows:

1. The gas and electric service foremen excelled in mental ability and mechanical comprehension.
2. The bookkeeping and clerical supervisors excelled in vocabulary, mental ability, and number and name checking.
3. The collection and meter reading foremen had lower average scores in all the tests except the personality and interest tests.
4. The district office managers excelled in all the tests.

EFFECTS OF AGE, EDUCATION AND SUPERVISORY EXPERIENCE

What about age, education and experience? Did these have any great effect upon the test scores and consequently upon the validity of the results? The older supervisors had lower test scores than their younger colleagues in the timed tests—the mental ability, clerical and form comparison tests. Younger supervisors had supervisory interests to a greater degree, and the younger service foremen and district office managers had stronger supervisory personalities than their older colleagues. However, the younger supervisors were also better supervisors than their older colleagues. In other words, the younger supervisors were inclined to achieve better scores in the tests and also to be better supervisors.

Similarly, the high school and college groups of supervisors provided greater proportions of the good supervisors than the grammar school group did, except among the service foremen. Also, the test scores of the better educated supervisors were generally higher than those of their less well-educated colleagues, even in the tests of supervisory personality and interests.

To sum up, it was found in this study that whatever contribution youth and education made to the test scores of these supervisors, was similarly made to their relative degrees of excellence. Consequently, the effect of both age and education on the test scores can be ignored.

Experience as a supervisor seemed to have no particular relationship either to the test scores or to the relative excellence of the supervisors. In two of the groups the seniors produced a larger proportion of good supervisors than the juniors did. The reverse was true in the other two groups.

DID THE TESTS SELECT?

All the tests distinguished to some extent between the good and the indifferent supervisors of all the groups. But, as might be expected, not all were equally good for all kinds of supervisors. More specifically, the English vocabulary test was of relatively little use in choosing between the good and the indifferent bookkeeping and clerical supervisors. All these supervisors had relatively large vocabularies.

The test of mental ability was useful for all groups of supervisors. The same fact has been noted by other people who have studied the question, and

it is entirely reasonable that a relatively high degree of mental ability should be associated with successful supervision.

The test of mechanical comprehension also selected good from indifferent supervisors of all kinds, but its value was greatest with the service foremen and, to a somewhat lesser extent, with the meter reading and collection foremen.

Only two of the personality inventory's published scales were found to be at all useful. The B2-S scale is supposed to measure self-sufficiency. The good supervisors among the service foremen and the district office managers were found to be more self-sufficient than the indifferent supervisors. The F2-S scale is said to measure sociability. The good supervisors among the district office managers were apparently less sociable than the indifferent supervisors.

It was a different story with the CFS scale specially developed for this test. Just what characteristic the CFS scale measures is not known, but let us call it "supervisory personality." The scale was applicable to all four of the supervisory groups studied to a greater degree than any of the other tests, except the CFS scale of the vocational interest blank.

The special CFS scale developed for the vocational interest blank was excellent in distinguishing the good from the indifferent supervisors of all the groups. Again, we don't know exactly what it measures, but an examination of the form itself indicates that it can measure only a collection of preferences and interests that are associated with successful supervisors. Whatever the reason may be, it was the best single all-around indicator of supervisory ability.

The number-matching test of the Minnesota Clerical Test distinguished quite well between the good and the indifferent supervisors of all groups. This was anticipated from the fact that, in a public utility at least, checking, which involves the ability to see quickly and accurately, is an important part of a supervisor's job. In the same way—and probably for the same reason—the name-checking part of this same clerical test was applicable to all four groups.

The form-comparison test proved useful only for the credit and collection and meter reading foremen and not for the bookkeepers and clerical supervisors nor for the district office managers.

HOW TO USE THE TESTS

Because a number of tests were found to distinguish the good and the indifferent supervisors in each of the groups, it was necessary to devise some way of consolidating a supervisor's test scores into a simplified index.

After all factors of simplicity, differences between the groups, and practicability had been considered, the following procedure for consolidating the test scores made by each supervisor was adopted:

The first step was to assign ratings on a five-point scale to the scores of each test, a different rating scale being employed for each test and for each group of supervisors. The test scores were grouped in such a way that, in theory, the middle 50 per cent of the supervisors in each test would have a rating of 2.0; the 16 per cent above and below the middle group would have

a rating of 1.5 and 2.5, respectively; and the remainder (9 per cent at the top and 9 per cent at the bottom) would have a rating of 1.0 and 3.0, respectively.*

The second step was to combine the test score ratings of a supervisor in each group of tests so that, to a reasonable degree, a low score in one test in a group would be compensated for by a high score in another test. The test score ratings in each group of tests were combined into test group ratings.

The third step was to combine the test group ratings of each supervisor into a final rating "based on test scores." A certain amount of compensation between groups was provided for.

The test score ranges and the procedure for obtaining the ratings based on test scores are shown in Tables 3, 4, 5 and 6. Typical examples are shown in Table 7.**

COMPARISONS BETWEEN RATINGS BASED ON TEST SCORES AND THE DEPARTMENTAL RATINGS

The rating based on test scores for each supervisor was computed and used as the index of the supervisor's relative standing insofar as the tests were concerned. Each rating based on test scores was compared with the general summary rating and the questionnaire score obtained by the employee on the rating scale made out for him by the executives of his department. In 86 per cent of the cases, these two ratings agreed with each other, either identically or within one point on a five-point scale. This agreement was considered close enough to indicate that for all practical purposes the rating based on test scores was a reliable index of supervisory ability.

Summing all this up, we can say that the tests actually did discriminate between the good and the indifferent supervisors. Consequently, it can be presumed that candidates for supervisory jobs who attain comparable scores in the tests and relatively favorable ratings based on test scores would have at least that much of "what it takes."

Conclusions and Applications

PROCEDURE FOR THE SELECTION OF SUPERVISORS

In the final analysis, we are seeking a method of selecting supervisors that is substantially better than current methods and yet will not require executives to relinquish their whole freedom of choice. The procedure proposed here will provide executives with factual and reasonably reliable data. The rest will be up to them. The proposed procedure has four steps:

1. ***Selecting tests and test score standards.*** This step involves the selection of tests (those employed in this study would be a good start); trying them out on a group of supervisors; obtaining supervisory ratings for these supervisors; comparing the test scores with the supervisory ratings; eliminating

* Statistically, the span of the middle (2.0) group was from M — 1PE to M + 1PE, or 2PE. The span of the 1.5 and the 2.5 groups was each 1PE. The span of the 1.0 and 3.0 groups was from M + 2PE to maximum and M — 2PE to a minimum, respectively.

** The consolidation of the test scores is not a simple matter, and yet it is much simpler than any resort to partial coefficients of correlation and regression equations would be. Correspondence is invited by the authors on this point.

unsatisfactory tests; and setting up the procedure for obtaining "ratings based on test scores."

2. ***Selecting a group of candidates for supervisory positions.*** This step could be accomplished by the method currently in use.

3. ***Sifting out unlikely candidates or arranging the candidates in the order of probable success.*** This sifting or arranging could be done by administering the battery of tests to the candidates, determining their test scores and the corresponding ratings based on test scores, and arranging the candidates in the order of these ratings. The fourth and fifth inferior groups could be eliminated if desired.

4. ***Final selection of candidates for trial.*** The responsible executives should add to the ratings based on test scores all available information about the candidates, covering: (a) the knowledge that they have of the job or that has fitted them for the job; (b) their versatility and adaptability; (c) their mental, physical and emotional fitness and stability; and (d) their standing with colleagues and present superiors. Finally the responsible executives should quite properly consider how well the candidates "click" with their prospective superiors.

This procedure offers considerable chance of success.

LIMITATIONS AND USES OF TESTS

As a result of this study, several conclusions can be drawn regarding the limitations and uses of tests for the selection of supervisors in business and industry:

1. For one thing, supervisors have many measurable characteristics. Consequently, several tests of different kinds are needed to determine whether a candidate has "what it takes." It is likely that not all the measurable characteristics were investigated in this study; but at least we can say that capable supervisors excel in various forms of mental ability, supervisory personality and interests, and visual perception.

2. Capable supervisors of various kinds—such as the four kinds included in this study—differ materially in mental abilities of various forms and in visual perception, but not in supervisory personality and interests. What would be a satisfactory score on a test of vocabulary, mental ability, mechanical comprehension, or number- or name-checking for one kind of supervisor would be too low or needlessly high for another kind. Therefore, appropriate standards in each measurable characteristic must be set for each type of supervisor to be selected if tests are to be used as one of the means for distinguishing likely candidates.

3. Age, education and supervisory experience affect scores in various tests only to about the same extent that they affect supervisory capability. Wherever these personal history factors were found to have affected test scores, they also affected supervisory ability. Consequently, test scores need not be corrected because of these factors when tests are used to select likely candidates for supervisory positions.

4. Consolidation of all test scores of a single individual into a single "rating based on test scores" was found to agree closely with his departmental ratings. Attempts to use the test scores without such consolidation were not successful. The method of consolidating test scores adopted in this study permitted a reasonable but not excessive compensation for low scores in one or two tests. The time spent in setting up the necessary standards and tables (which are more tedious than complicated to construct and are simple to use) is well worth while.

5. Consolidated test scores of a number of tests, expressed in "ratings based on test scores," could be used profitably as a means of sifting likely candidates for promotion to supervisory positions or for grouping the candidates according to likelihood of success as supervisors. Tests should not, however, be employed as the sole means for selecting candidates.

6. The tests used in this study can be employed with confidence in the selection of likely candidates for supervisory positions—and many other tests of like suitability can be found—provided appropriate standards of excellence are experimentally established as they were in this study.

7. The use of tests for the selection of supervisors should be limited to providing reliable factual data for the consideration of the selecting executives. Other pertinent factors, including behavior in non-supervisory jobs, job knowledge, and the personal preferences of senior supervisors and executives should also be carefully weighed.

CONCLUSIONS

Executives will agree that the supervisor is a critical factor in the operation of a business or manufacturing plant. He is important not alone because he personally executes the personnel and operating policies of management, and provides management with a realistic account of the needs and reactions of the operative employees. He is also important because he, collectively, provides the pool from which future executives will be chosen. The soundness of future management policies and the profitability of future operations are in his hands.

Consequently, the need for the best possible selection and development of supervisory staffs is obvious. The method proposed in this article provides reliable facts on which to base the selection of supervisors. Continued study of this method and the exploration of other sources of potentially useful data are necessary and will yield rich rewards to business and industry.

(Bibliography and tables appear on following pages.)

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Appendix: Tables 1-7

Table 1

DEVELOPMENT OF COMPOSITE QUESTIONNAIRE WEIGHTS

(SUPERVISORY RATING SCALE)

Question Number	*Composite Questionnaire Weights*			*Question Number*	*Composite Questionnaire Weights*		
	Yes	*???*	*No*		*Yes*	*???*	*No*
1	2	—	—	16	—	—	1
2	—	—	3	17	2	—	—
3	—	—	1	18	—	—	1
4	1	—	1	19	—	—	—
5	2	—	—	20	2	—	—
6	2	—	—	21	2	—	—
7	1	—	2	22	2	—	—
8	5	2	—	23	—	—	1
9	3	—	1	24	—	—	1
10	—	—	2	25	—	—	1
11	—	—	2	26	3	—	—
12	2	—	—	27	4	1	—
13	1	—	—	28	4	2	—
14	4	—	—	29	4	1	—
15	—	—	—	30	—	—	1
				31	3	—	—

Table 2

QUESTIONNAIRE SCORE RANGES AND ASSOCIATED GENERAL SUMMARY RATINGS OF GENERAL VALUE

(SUPERVISORY RATING SCALE)

Questionnaire Score Ranges	0–15	16–31	32–47	48–63
General Summary Ratings of General Value	Fair and Unsatisfactory 3.0, 2.5	Average and Fair 2.5, 2.0	Very Good and Average 2.0, 1.5	Exceptional and Very Good 1.5, 1.0

See Explanatory Notes for method of deriving the data in Tables 1 and 2.

EXPLANATORY NOTES

Supervisory Rating Scale and Tables 1 and 2

1. The figures 1, 2, 3, after the questions in the answer column of the Supervisory Rating Scale are for the convenience of the rater, to indicate to him favorable and unfavorable answers—1 being favorable. Thus, for Question 1, "Yes" is a favorable answer; while for Question 2, "No" is a favorable answer and "Yes" is unfavorable.
2. The weights assigned to the questionnaire answers (Table 1) were determined by the method of percentage differences, a set of weights being determined for each group of supervisors and cleared of negative numbers, and the weights for the four groups being consolidated into a single set.
   a. The employees of each group—such as the service foremen—were divided into two groups on the basis of the Summary Rating of General Value—the Excellent-Very Good (EVG) group and the Average-Fair-Unsatisfactory (AFU) group.
   b. For each question the percentage of supervisors of the AFU group who received a "Yes" answer was subtracted from the percentage of the EVG group who received the same answer, and the difference was reduced by dividing it by 10 and valuing it at the nearest whole number. Similarly, with the percentages of supervisors who received "?" and "No" answers.
   c. For each question always one, and sometimes two, of the reduced percentage differences would be negative. The negative numbers were cleared by adding to each reduced percentage difference a number equal to the larger negative number. The resulting numbers were called "cleared raw weights."
   d. The cleared raw weights of a question were determined for each group of supervisors and added together. These sums were reduced to composite questionnaire weights by the following table:

Sum of Cleared Raw Weights	0–10	11–20	21–30	31–40	41–50	51–60
Composite Questionnaire Weights	0	1	2	3	4	5

   e. The steps a-d, inclusive, are illustrated for Question 1:

Supervisory Group	*Summary Rating Group*	*No. of Supers. Getting Answers* *Yes*	*???*	*No*	*Reduced Percent Diffs.* *Yes*	*???*	*No*	*Cleared Raw Weights* *Yes*	*???*	*No*
Gas & Elec Svce. Foremen	EVG	40	1	0						
	(%)	(97.6)	(2.4)	(0)	5	—3	—2	8	—	1
	AFU	13	11	6						
	(%)	(43.3)	(36.2)	(20)						
Bookkeeping and Clerical								7	—	2
Meter Reading and Collection								2	1	—
District Office Managers								11	—	—
	Sum of Cleared Raw Weights							28	1	3
	Composite Questionnaire Weight							2	—	—

3. The relations between Questionnaire Score Ranges and General Summary Ratings of General Value (Table 2) were obtained by inspection. The questionnaire scores of the supervisors of each supervisory group were listed in columns according to the General Summary Ratings assigned to the supervisors by their superiors, and the relations shown in Table 2 were found to hold good for all four groups of supervisors—nearly all who had questionnaire scores between 48 and 63 had ratings of 1.5 or 1.0; those with scores between 32 and 47 had ratings of 2.0 or 1.5; etc. The ranges are accidental but reliable.

Table 3

Gas and Electric Service Foremen

SCHEDULES OF TEST SCORE RATINGS, TEST GROUP RATINGS, AND RATINGS BASED ON TEST SCORES

Schedule A: Test Score Ratings

Test Score Ratings	Intellective Group				Personality Group			Visual Perception Group	
	Eng Voc	*Otis M A 20 Min*	*Otis M A 30 Min*	*Bennett Form AA*	*Bern P I B2-S*	*Bern P I CFS*	*Strong V I CFS*	*Minn Cler T-1*	*Minn Cler T-2*
Mean	75.8	31.0	36.9	37.9	+34.5	45.4	80.2	95.8	82.3
PE	16.1	5.6	7.2	6.5	29.0	4.5	9.2	16.3	17.6
	Gas and Electric Service Foremen Norms = M ± 1PE, ± 2PE								
1.0	108-up	43-up	52-up	51-up	+93-up	55-up	99-up	129-up	118-up
1.5	92-107	37-42	45-51	45-50	+64-92	50-54	90-98	113-128	100-117
2.0	60-91	26-36	30-44	32-44	+6-63	41-49	71-89	80-112	65-99
2.5	44-59	20-25	23-29	25-31	—23- +5	37-40	62-70	64-79	48-64
3.0	0-43	0-19	0-22	0-24	—24 and below	0-36	0-61	0-63	0-47

Schedule B: Test Group Ratings

Test Group Ratings	Intellective Group				Personality Group			Visual Perception Group	
	Eng Voc	*Otis M A 20 Min*	*Otis M A 30 Min*	*Bennett Form AA*	*Bern P I B2-S*	*Bern P I CFS*	*Strong V I CFS*	*Minn Cler T-1*	*Minn Cler T-2*
	Use Higher Test Score Rating								
1.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
		Sum 5.0				Sum 5.0			Sum 3.5
1.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5
		Sum 6.0				Sum 6.0			Sum 4.0
2.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
		Sum 7.0				Sum 7.0			Sum 4.5
2.5	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
		Sum 8.0				Sum 8.0			Sum 5.0
3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
	No Limits								

Schedule C: Ratings Based on Test Scores

Rating Based on Test Scores	*Limiting Test Group Ratings*	*Limiting Sum of Test Group Ratings*
1.0	1.5	3.5
1.5	2.0	4.5
2.0	2.5	6.0
2.5	3.0	7.5
3.0	3.0	9.0

Table 4

Bookkeeping and Clerical Supervisors

SCHEDULES OF TEST SCORE RATINGS, TEST GROUP RATINGS, AND RATINGS BASED ON TEST SCORES

Schedule A: Test Score Ratings

Test Score Ratings	Intellective Group				Personality Group		Visual Perception Group	
	Eng Voc	*Otis M A 20 Min*	*Otis M A 30 Min*	*Bennett Form AA*	*Bern P I CFS*	*Strong V I CFS*	*Minn Cler T-1*	*Minn Cler T-2*
Mean	—	34.9	41.8	32.1	45.2	77.6	127.3	113.9
PE	—	5.0	5.8	6.7	4.0	7.8	20.6	19.1
	Bookkeeping and Clerical Supervisors Norms = M ± 1PE, ± 2PE							
1.0	—	45-up	54-up	46-up	54-up	94-up	169-up	153-up
1.5	—	40-44	48-53	39-45	50-53	86-93	148-168	133-152
2.0	—	30-39	36-47	26-38	42-49	70-85	107-147	95-132
2.5	—	25-29	31-35	19-25	38-41	62-69	87-106	76-94
3.0	—	0-24	0-30	0-18	0-37	0-61	0-86	0-75

Schedule B: Test Group Ratings

Test Group Ratings	Intellective Group				Personality Group		Visual Perception Group	
	Eng Voc	*Otis M A 20 Min*	*Otis M A 30 Min*	*Bennett Form AA*	*Bern P I CFS*	*Strong V I CFS*	*Minn Cler T-1*	*Minn Cler T-2*
	Use Higher Test Score Rating							
1.0		2.0		2.0	2.0	2.0	2.0	2.0
			Sum 3.5			Sum 3.5		Sum 3.5
1.5		2.5		2.5	2.5	2.5	2.5	2.5
			Sum 4.0			Sum 4.0		Sum 4.0
2.0		3.0		3.0	3.0	3.0	3.0	3.0
			Sum 4.5			Sum 4.5		Sum 4.5
2.5		3.0		3.0	3.0	3.0	3.0	3.0
			Sum 5.0			Sum 5.0		Sum 5.0
3.0		3.0		3.0	3.0	3.0	3.0	3.0
					No Limits			

Schedule C: Ratings Based on Test Scores

Rating Based on Test Scores	*Limiting Test Group Ratings*	*Limiting Sum of Test Group Ratings*
1.0	1.5	3.5
1.5	2.0	4.5
2.0	2.5	6.0
2.5	3.0	7.5
3.0	3.0	9.0

Table 5

Collection and Meter Reading Foremen

SCHEDULES OF TEST SCORE RATINGS, TEST GROUP RATINGS, AND RATINGS BASED ON TEST SCORES

Schedule A: Test Score Ratings

Test Score Ratings	Intellective Group				Personality Group		Visual Perception Group		
	Eng Voc	*Otis M A 20 Min*	*30 Min*	*Bennett Form AA*	*Bern P I CFS*	*Strong V I CFS*	*Minn Cler T-1*	*T-2*	*Minn PFB*
Mean	76.2	27.6	33.0	25.6	43.1	72.5	106.8	96.4	31.0
PE	17.0	6.7	8.1	8.5	5.3	10.1	19.5	22.2	8.4
	Collection and Meter Reading Foremen Norms = M ± 1PE, ± 2PE								
1.0	111-up	41-up	50-up	43-up	54-up	93-up	146-up	141-up	48-up
1.5	94-110	35-40	42-49	35-42	49-53	83-92	127-145	119-140	40-47
2.0	60-93	21-34	25-41	18-34	38-48	63-82	88-126	75-118	23-39
2.5	43-59	15-20	17-24	9-17	33-37	53-62	68-87	52-74	15-22
3.0	0-42	0-14	0-16	0-8	0-32	0-52	0-67	0-51	0-14

Schedule B: Test Group Ratings

Test Group Ratings	Intellective Group				Personality Group		Visual Perception Group		
	Eng Voc	*Otis M A 20 Min*	*30 Min*	*Bennett Form AA*	*Bern P I CFS*	*Strong V I CFS*	*Minn Cler T-1*	*T-2*	*Minn PFB*
	Use Higher Test Score Rating								
1.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
	Sum 5.0				Sum 3.5		Sum 5.0		
1.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5
	Sum 6.0				Sum 4.0		Sum 6.0		
2.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
	Sum 7.0				Sum 4.5		Sum 7.0		
2.5	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
	Sum 8.0				Sum 5.0		Sum 8.0		
3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
					No Limits				

Schedule C: Ratings Based on Test Scores

Rating Based on Test Scores	*Limiting Test Group Ratings*	*Limiting Sum of Test Group Ratings*
1.0	1.5	3.5
1.5	2.0	4.5
2.0	2.5	6.0
2.5	3.0	7.5
3.0	3.0	9.0

Table 6

District Office Managers

SCHEDULES OF TEST SCORE RATINGS, TEST GROUP RATINGS, AND RATINGS BASED ON TEST SCORES

Schedule A: Test Score Ratings

	Intellective Group				Personality Group				Visual Perception Group	
Test Score Ratings	*Eng Voc*	*Otis M A 20 Min*	*30 Min*	*Bennett Form AA*	*Bernreuter P I B2-S*	*F2-S*	*Strong V I CFS*	*CFS*	*Minn Cler T-1*	*T-2*
Mean	102.2	34.4	42.7	36.1	+32.0	—21.1	45.9	78.9	112.1	108.0
PE	13.8	4.8	5.9	6.6	34.3	35.3	4.4	10.1	14.5	14.7
	District Office Managers Norms = M ± 1PE, ± 2PE									
1.0	130-up	44-up	55-up	50-up	+101-up	+ 50-up	55-up	100-up	142-up	138-up
1.5	116-129	40-43	49-54	43-49	+67- +100	+ 15- +49	51-54	89-99	127-141	123-137
2.0	89-115	30-39	37-48	30-42	—2- + 66	—56- +14	42-50	69-88	98-126	94-122
2.5	75-88	25-29	31-36	23-29	—36- —3	—91- —57	38-41	59-68	84-97	79-93
3.0	0-74	0-24	0-30	0-22	—37 and below	—92 and below	0-37	0-58	0-83	0-78

Schedule B: Test Group Ratings

	Intellective Group				Personality Group				Visual Perception Group	
Test Group Ratings	*Eng Voc*	*Otis M A 20 Min*	*30 Min*	*Bennett Form AA*	*Bernreuter P I B2-S*	*F2-S*	*CFS*	*Strong V I CFS*	*Minn Cler T-1*	*T-2*
	Use Higher Test Score Rating									
1.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
	Sum 5.0				Sum 7.0				Sum 3.5	
1.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5
	Sum 6.0				Sum 8.0				Sum 4.0	
2.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
	Sum 7.0				Sum 9.0				Sum 4.5	
2.5	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
	Sum 8.0				Sum 10.0				Sum 5.0	
3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
	No Limits									

Schedule C: Ratings Based on Test Scores

Rating Based on Test Scores	*Limiting Test Group Ratings*	*Limiting Sum of Test Group Ratings*
1.0	1.5	3.5
1.5	2.0	4.5
2.0	2.5	6.0
2.5	3.0	7.5
3.0	3.0	9.0

Table 7

ILLUSTRATIONS OF THE DETERMINATION OF RATINGS BASED ON TEST SCORES

Based on Data and Procedure Shown in Tables 3-6, incl.

In each of the following examples, test scores of a candidate for a supervisory position will be assumed and the likelihood of his having supervisory ability for each of the four supervisory groups will be determined from the Ratings Based on Test Scores.

Example A

		TYPE OF SUPERVISORY POSITION — Test Score Rating			
Test	*Score*	*Gas & Elec Serv Fmn*	*Bkpg & Cler Super*	*Meter Reading & Col Fmn*	*Dist Ofce Mgrs*
Eng Voc	80	2.0	Not Valid	2.0	2.5
Otis–20 Min	45	1.0	1.0	1.0	1.0
–30 Min	50				
Bennett	47	1.5	1.0	1.0	1.5
Test Group Rating		1.0	1.0	1.0	1.5
BPI–B2–S	+60	2.0	Not Valid	Not Valid	2.0
–F2–S	—60	Not Valid	Not Valid	Not Valid	2.5
–CFS	45	2.0	2.0	2.0	2.0
SVI–CFS	95	1.5	1.0	1.0	1.5
Test Group Rating		1.5	1.0	1.0	1.5
Minn Cler–T–1	110	2.0	2.0	2.0	2.0
–T–2	108	1.5	2.0	2.0	2.0
Minn PFB	50	Not Valid	Not Valid	1.0	Not Valid
Test Group Rating		1.0	1.5	1.0	1.5
Rating Based on Test Scores		1.0	1.0	1.0	1.5

Note: This man, so far as the test scores are concerned, has the abilities necessary for any of the four types of supervisors included in this study. His actual selection would depend upon other factors, such as previous experience, job knowledge, and relations with his colleagues and his prospective boss.

Example B

		TYPE OF SUPERVISORY POSITION — Test Score Rating			
Test	*Score*	*Gas & Elec Serv Fmn*	*Bkpg & Cler Super*	*Meter Reading & Col Fmn*	*Dist Ofce Mgrs*
Eng Voc	90	2.0	Not Valid	2.0	2.0
Otis–20 Min	31	2.0	2.0	2.0	2.0
–30 Min	38				
Bennett	18	3.0	3.0	1.5	3.0
Test Group Rating		2.0	2.5	1.5	2.0
BPI–B2–S	+16	2.0	Not Valid	Not Valid	2.0
–F2–S	—39	Not Valid	Not Valid	Not Valid	2.0
–CFS	42	2.0	2.0	2.0	2.0
SVI–CFS	67	2.5	2.5	2.0	2.5
Test Group Rating		2.0	2.0	1.5	2.0
Minn Cler–T–1	100	2.0	2.5	2.0	2.0
–T–2	88	2.0	2.5	2.0	2.5
Minn PFB	44	Not Valid	Not Valid	1.5	Not Valid
Test Group Rating		1.5	2.5	1.5	2.0
Rating Based on Test Scores		2.0	2.5	1.5	2.0

Note: So far as the tests are concerned, this candidate has the qualifications necessary for a meter reading and collection foreman and, to a somewhat less extent, for a gas and electric service foreman and district office manager. He would not be satisfactory as a bookkeeping and clerical supervisor. His actual placement would depend upon the other factors discussed in the text.

THE PERSONNEL BOOKSHELF

Union Policy and Incentive Wage Methods. By Van Dusen Kennedy. Columbia University Press, New York, 1945. 260 pages. $3.00.

*Reviewed by J. K. Louden**

There can be no question concerning the major role wage payment methods play in the field of industrial relations. It is over these methods that major differences arise in collective bargaining, and they involve not only the amount of money that will be paid but the determination of the amount of work that shall be expected for the payment of that amount of money.

In recognition of this problem, Dr. Kennedy made a field study to determine the attitude of organized labor toward wage incentives as a method of compensation, and union practices and policies concerning their use.

The author states clearly the limitations under which this book was written. First of all, research work for the study was completed prior to the entry of the United States into the war, and time did not permit bringing the report up-to-date before publication. Consequently, it deals primarily with prewar conditions. Furthermore, the author chose the primary role of a reporter in summarizing the results of his interviews with representatives of management and labor rather than that of a commentator and analyst.

It is to be regretted that Dr. Kennedy lacked time to bring his material up-to-date before publication and to measure the development of this phase of labor-management relations during the war period. It is also disappointing that he was unable to consider his carefully developed material from an analytical and objective viewpoint and to define what, in his opinion, would constitute a balanced attitude toward this important problem on the part of both management and labor.

In conducting his field interviews, the author went to considerable pains to ascertain that he was obtaining a typical picture of a cross-section of manufacturing industry and to discuss his problem with management and labor representatives who were truly representative and could speak with knowledge and authority.

He recognized the importance not only of determining the general pattern of union experience and policy but of securing illuminating examples of specific practice. Accordingly he adopted the case method of presenting his material and has made generous use of this device to illustrate the points raised by workers, union leaders and members of management.

As Dr. Kennedy points out, the very nature of the problem, the wide diversity of not only the economic settings but the labor practices to be studied, as well as the wide variation of productive processes and machine characteristics in different industries, in addition to the variations in management methods from plant to plant and industry to industry, make it extremely difficult to develop a pattern and arrive at relatively simple conclusions as to basic underlying differences and how they might be overcome.

In the first chapter he has carefully described the scope and method of his investigation and the character of his findings. The next four chapters deal with time study methods, union attitudes and general policies and the extent and nature of union participation as he found them to be.

The last chapter contains many examples of union agreement provisions

* Production Manager, Glass and Closure Production, Armstrong Cork Company.

NOTE: *New books on personnel management are also reviewed regularly in the Association's monthly publication,* THE MANAGEMENT REVIEW.

governing the use of wage incentives in unionized plants. In this chapter the author has not only indicated the types of clauses most unions seek to obtain as standard safeguards and guarantees but has included many types of safeguards that did not have wide usage throughout manufacturing industry at the time his investigation was conducted.

Directors of labor relations and industrial engineers will profit by careful study of the material presented. The book serves to emphasize strongly the need for much careful thought on the part of both management and labor as to what constitute sound practices in wage incentive methods and what part labor should play in their development and control.

It is to be hoped that the author, who currently heads the automotive staff of the Regional War Labor Board in Detroit, will soon find time to continue the work he has begun with this book and to include in a subsequent work the material he has doubtless collected while serving in his present capacity and to make an analytical study of this important and complex problem.

PUBLICATIONS RECEIVED

[Please order directly from publishers]

Employee Contact Through the Bulletin Board. Policyholders Service Bureau, Metropolitan Life Insurance Company, New York, 1937. 24 pages. Gratis.

The Use of Tests in the Selection and Promotion of Employees: *By Industries in the Chicago Area.* The Chicago Association of Commerce, Chicago, Ill. 12 pages.

Sickness Indemnification: *A Panel Discussion* (Part II of Proceedings of the Ninth Annual Meeting of the Industrial Hygiene Foundation of America, Inc.) By R. A. Hohaus *et al.* Industrial Hygiene Foundation, Pittsburgh 13, Penna., 1945. 55 pages. 50 cents.

The Place of the Foreman, or Supervisor, in an Industrial Organization Having a Collective Bargaining Agreement: *A Manual for Conference Leaders* (Conferences Conducted for Foremen of Fairchild Aircraft Division of Fairchild Engine and Airplane Corporation, Hagerstown, Maryland). Vocational Training for War Production Workers, Maryland State Department of Education, Baltimore, Md., 1943. 31 pages.

What's Ahead in Paying Salesmen. McClure, Hadden & Ortman, Inc., 111 West Washington Street, Chicago, 1945. 39 pages. Gratis.

UE Guide to Group Insurance. The United Electrical, Radio and Machine Workers of America—CIO, 11 East 51 Street, New York, 1944. 127 pages. 75 cents.

Compulsory Arbitration of Labor Disputes. Compiled by Julia E. Johnsen. *The Reference Shelf,* Vol. 17, No. 6. The H. W. Wilson Company, New York, 1945. 258 pages. $1.25.

Retirement Plans for Trade Associations. Committee on Office Management and Procedures, American Trade Association Executives, Washington, D. C., 1945. 103 pages. $1.50.

Re-employment of War Veterans: *One of Two Studies Dealing with the Employment of the War Veteran.* Policyholders Service Bureau, Metropolitan Life Insurance Company, New York, 1945. 36 pages. Gratis.

How to Avoid Unfair Labor Practices. Labor Relations Institute, New York, 1945. 44 pages. $1.50.

A Study of Certified Sickness Absence Among Women in Industry. By S. Wyatt. *Report No. 86,* Industrial Health Research Board, Medical Research Council, London, England, 1945. Available from H. M. Stationery Office, York House, Kingsway, London, W.C.2. 34 pages. 9*d.*

A Psychiatrist Looks at the Supervisor. By Dr. Lydia G. Giberson. Policyholders Service Bureau, Metropolitan Life Insurance Company, New York 10, N. Y. 11 pages. Gratis.

Unionization of Foremen and Supervisors: *A Bibliography.* Compiled by Amy R. Jennings. Revised April, 1945. National Labor Relations Board, Washington, D. C. 9 pages. Gratis.

Johns-Manville Plans Way to Aid Veterans

APPOINTMENT of veteran advisers at Johns-Manville mines, plants and offices to assure individual and personal attention to all returning veterans is part of a broad program now being planned and set up by the company. An important phase of the plan involves determining whether the veteran has acquired additional training, skill and experience qualifying him for a better job than he formerly held, or whether he wishes to return to his old job.

To assist in uniform administration of the plan at the company's more than 70 offices, plants and mines, a comprehensive manual has been compiled for veteran advisers and other persons concerned with employment, containing statements of basic and detailed policies, plans and procedures. Included in the manual are the laws pertaining to veteran reemployment, data on government and Johns-Manville benefits, and other helpful material to guide the Johns-Manville organization in carrying out the announced company policies toward veterans.

—*American Business* 4/45

New Slant on Selecting Inspectors

A DISCOVERY that nearsighted persons are least subject to eyestrain or headaches in close inspection work was reported some time ago at a meeting of pharmaceutical executives during a convention of the Packaging Institute.

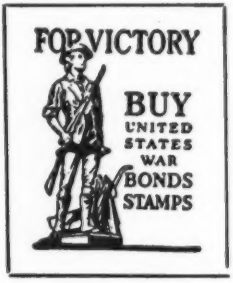
A. J. Gerathy, production manager of Schering Corporation, Bloomfield, N. J., producers of endocrine, biological and pharmaceutical preparations, described the company's inspection problem. When new girls had been trained and put to work inspecting filled ampuls, many of them complained of eyestrain and headaches after a comparatively brief period. Others, both new girls as well as those who had been on the inspection lines for longer periods, made no complaint. More frequent rest periods failed to reduce the frequency of eyestrain and headaches.

Realizing that ampul inspection is rather close work, the management had the eyes of all women inspectors examined by a competent eye specialist. The examinations indicated that most of the girls who did not suffer eyestrain or headaches were nearsighted; or if their vision was normal (20/20) they had good muscular eye control. The others either were farsighted or had poor muscular eye control.

The theory advanced by oculists is that each person's eyes can focus best at a certain distance. For farsighted people, this distance is considerably greater than for the nearsighted. It is apparent that in close inspection work a nearsighted person has less difficulty focusing upon the object than someone who is farsighted.

The management decided to hire only girls with normal vision and good muscular eye control or those who were nearsighted for work on the ampul inspection line. The Schering "help wanted" advertisements for inspectors thereafter contained a new qualification: "Nearsighted girls or women especially desirable."

—*The Glass Packer* 12/43



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